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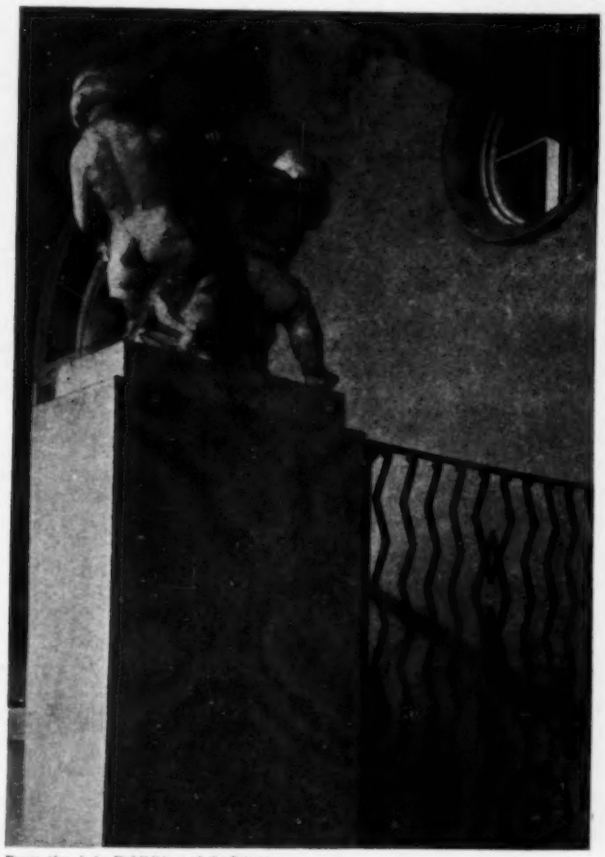


From the A.A. Exhibition of Sculpture.

Sculpture in Workmen's Housing Block, Vienna.

MEETINGS

FRIDAY, *April* 4.

Institution of Mechanical Engineers. Discussion on "Smoke," by Mr. A. Lennox Stanton. 7 p.m.

FRIDAY-SATURDAY, *April* 4 *and* 5.

Royal Sanitary Institute. Discussion on "The Reconstruction and Reconditioning of Working-class Houses," by Councillor A. E. H. Webb; and "Port Sanitation," by Dr. P. B. P. Mellows. At the Council Chamber, Plymouth.

Association of Architects, Surveyors and Technical Assistants. Visit to Marble Arch Flats, adjoining Regal Cinema, Marble Arch. 2.30 p.m.

Institution of Civil Engineers. Visit to the Works of the Ford Motor Co., at Dagenham.

SATURDAY, *April* 5.

Institution of Municipal and County Engineers. North-Western District Meeting. At Manchester. 10.30 a.m.

MONDAY, *April* 7.

Royal Institute of British Architects. Mr. J. Hubert Worthington on "Antonio da San Gallo the Younger." 8 p.m.

Carpenters' Hall Lectures. Professor W. H. Wagstaff on "The Rainbow." 8 p.m.

Surveyors' Institution. Professor T. Wibberley on "The Future of British Agriculture." 8 p.m.

TUESDAY, *April* 8.

Illuminating Engineering Society. Mr. S. Anderson on "Textile Lighting." 7 p.m.

Institution of Civil Engineers. Mr. B. B. Haskew on "The Rebuilding of the Bassein Bridges on the Bombay, Baroda and Central India Railway"; and Mr. W. T. Everall on "The Reconstruction of the Attock Bridge across the River Indus on the North-Western Railway, India." 6 p.m.

Institution of Electrical Engineers (Scottish Centre). Messrs. H. A. Humphrey, D. M. Buist, and J. W. Bansall on "The Imperial Chemical Industries' (Limited) Steam and Electrical Power Plant at Billingham." At Glasgow. 7.30 p.m.

WEDNESDAY, *April* 9.

Architecture Club. Discussion on "Relation of Sculpture to Architecture." At 34, Bedford-square, W.C.1. 8.30 p.m.

Institution of Civil Engineers. Mr. S. T. Dutton on "Recent Developments in Railway Permanent-way Practice, with particular reference to the use of Metal Sleepers." 6 p.m.

THURSDAY, *April* 10.

Architectural Association. Dinner in honour of Mr. Robert Atkinson. At the Criterion Restaurant. 7.30 p.m.

Society of Antiquaries of London. Report on the Excavations at Richborough, 1929, by Mr. J. P. Bushe-Fox. 8.30 p.m.

West Yorkshire Society of Architects. Rev. Canon W. Thompson Elliott on "Liverpool Cathedral." At Leeds. 7 p.m.

Widows' Friend Society. Lantern Lecture, "London in the time of Henry VIII," by Mr. Herbert A. Cox, F.S.A., at 5.30 in Stationers' Hall, E.C. Chairman, the Rt. Hon. the Lord Mayor, Alderman Sir William Waterlow, K.B.E.

FRIDAY AND SATURDAY, *April* 11 AND 12.

Royal Sanitary Institute. Discussion on "Modern Elementary School Construction," by Mr. R. L. Honey; "Special Difficulties in Housing," by Mr. T. Topping; and visits to the Rochester and Chatham Joint Sewage Works, the Royal Naval Hospital, etc. Meetings at the Town Hall, Chatham. 4.30 p.m.

From the A.A. Exhibition of Sculpture.

Entrance to Church at Prague.

THE SLUMS

IN a recent leader in a weekly contemporary the problem of the slums was dealt with — unfortunately from a political standpoint. A Socialist Government was taken to task because it had done nothing to mitigate the horrors of the slums, despite its claims—disputed of course—to have a monopoly of the virtue that thinks in terms of the betterment of mankind, but particularly the working classes. As a jibe it has no particular interest to anyone uninterested in politics, but its economic reasoning claims attention. In jibing at the delay in dealing with the slums doubtful causes are advanced for their existence.

Almost all thinking people admit that our slums are a blot on our civilisation, and from that starting point they are divided into two camps. Only State money can solve the problem. One side believes in spending the money now and in spending heavily; the other sees difficulties and causes which either have a prior claim to attention or require amendment. If it is urged that no one can have the slum problem at heart and remain niggardly with State money, there is no effective reply—at least no reply that definitely places anyone in the right or the wrong. It is precisely here where argument begins and ends by falling back upon the generalisation that it is easy to be at once a specialist and a faddist on a social problem that involves the spending of our neighbour's money.

Quite apart from the slum question there are thousands of homes yet required for the immediate needs of those who are not living near the poverty line. The slum "shortage" is very naturally the acute end of the general housing shortage. As a nation we are stricken industrially, and as a consequence the housing or slum problem becomes one of a number of other problems that press heavily on us in our depressed condition. Priority in the settling of these problems may be ruled by anything—evidently by thrust and counter-thrust of the politician. But politics apart, it seems to have been agreed universally that food and clothing are the first considerations. The "dole" is the proof. Other social charges develop all with the same end in view, and unfortunately by an economic law—at present considered as a by-law—other necessities such as houses become dearer and get out of our reach. There are "doles" for house building, however much we may dislike the expression, and bigger "doles" will be required for slum clearance.

Any agitation, therefore, for clearing the slums at once in preference to spending money in securing food and other comforts must, of necessity, develop a form of argument academic and pointless. The economic result of the financing of any social service is to add an additional cost to the next. In fairness to the problem it really becomes a question of how many social matters can be dealt with at the same time, or, in other words, how much money we should spend, and how much we can afford to spend. We cannot all get our own way. We resent taxation here; we would like to see it there to develop the thing we have at heart, and the higher taxation goes the more easily we can prove that money can be found for our cause.

There is no answer to these questions—at least, no answer that would not be torn to shreds. We get no further than the general premises that at the very depths of trade depression we are spending national money at a rate far beyond anything we have ever experienced. It may be merely an unfortunate coincidence; it may even be a natural result that we should be dealing with two extremes. Scores of theories might crop up here. The probability is that if we do not spend as much as we ought upon social services when we are prosperous, we are compelled to spend when we are poorer, because poverty adds acuteness to our social problems. Some colour is lent to this theory when we realise that we have to deal with an unprecedented number of unemployed rapidly qualifying for slum conditions in their homes. At least, this is how the matter would have been regarded twenty years ago, when absence of work meant poverty and the cheapest kind of dwelling. The slum problem of to-day is therefore a much bigger affair.

It is doubtful whether the effect of a general housing shortage upon the slum problem has hitherto received its full significance. A housing shortage was bound to intensify the existing evils of the slums and to create fresh slums. In point of fact it would seem that a shortage of houses is the most certain method of creating slum conditions. If we regard a chronic housing shortage as an economic condition, we see its development in the aggravation of the social conditions of the poor. The supply of secondhand houses for the poor is limited; it is controlled by the available supply of houses of which at the moment there is a distinct shortage. As a social and economic development it is perfectly natural, however much we may despise our civilisation for permitting what is now regarded as an anti-social development. An increase in houses leading by a filtration process to an increase of houses for the poorest class is not an ideal solution appealing to the social reformer. He sees in the conditions to-day an opportunity to build what might be expressed as new slums under ideal conditions. Since, therefore, an increased supply of houses leading to secondhand houses is not a fundamental part of the slum problem, as seen by the social reformer, the matter becomes in essence a question of whether the State can deal with both claims at the same time.

To some extent the social reformer prejudices his cause when he asserts that the time is ripe to deal with the slums because the shortage of houses generally has now been made good. In this there is evidence of confusion between the number of houses being built and the number of people requiring houses. A moderate demand for the builder's services is not a true indication of the acuteness of a housing shortage. There is a fairly general belief that throughout the country there are large waiting lists for houses which unfortunately are being postponed continually owing to what are considered to be high building costs. If this belief is correct—that the causes of the shortage are economic—we are not impressed with the argument that the present is a favourable opportunity to rebuild the slums because the work would minimise unemployment in the building trade. It simply means that the State must pay for social services where the private individual maintains he cannot afford to pay. In short, it is the opinion of many thinking people that the social reformer, instead of helping his cause, has succeeded in arousing a suspicion that the rebuilding of the slums will provide a golden opportunity from a building trade point of view. If there is anything in these doubts no greater act of folly could be committed than an extensive programme of slum clearance. The consequences would be as serious for the building industry as for the rest of the community.

We bear in mind that we are spending amidst hopeless trading conditions; that we have a heavy burden in the payment of "doles" to unemployed who might have been employed for years earning the "dole" in clearing away every slum in the country. This is the position as it is seen by many, and it must be admitted that the solution would have been natural and reasonable. To keep this in mind is to preserve a sense of proportion in a matter obscured by sentimentality.

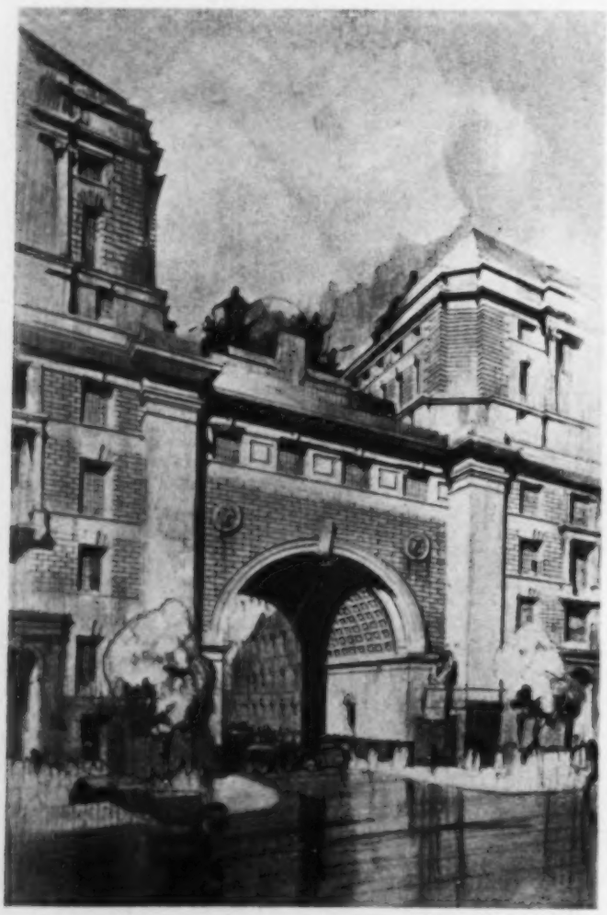
NOTES

The Alternatives at Charing Cross.

We have already commented on the uncalled for assumption that no alternative scheme has been proposed in place of the Charing Cross official scheme. Besides the alternative to which we have referred, Mr. Arthur Keen recalls the alternative put forward by Mr. Basil Mott and Sir George Humphreys to place the new terminus on the Waterloo Junction site adjoining the Waterloo terminus; they said it would give an opportunity for a general treatment of the combined terminus and the adjacent lands on the south side which had never before been possible. Nothing could well be more condemnatory of the official scheme than the bird's-eye view of the model published in *The Times* on March 27th. One can hardly imagine anything more awkward and impossible than the lay-out of this scheme. Here is one of the finest spaces on the north side of the river covered by the approach to the bridge from the new place at the end of the Strand. And what can be said of the treatment of the roads and spaces on the north side or the appalling Waterloo-road viaduct, with its effect of tunnelling and consequent depreciation of land values.

A Disaster for London.

The menace to London created by the scheme adopted for Charing Cross seems to one of our correspondents to call for the most vigorous opposition from its citizens. He says: "The scheme has been condemned by practically all who are entitled to express an expert opinion on it, and the model shows in a most convincing way how it fails to meet the problem of traffic and the incidental issues of increment values. It has been conclusively shown that a far better scheme is possible from a practical and economical point of view, and yet the promoters of the official scheme have the courage to say that every scheme but the official one has been turned down and found wanting. What a fatuity of outlook is this before London! Why is not a public meeting of protest called? This is no fanciful matter of purely academic interest but an affair of the most serious import for London. Is all the influence of societies and men of the highest ability to go for nothing? I suggest that at this juncture a united meeting of protest by all the societies interested in the amenities of London would be of the utmost value in calling public attention to the serious deficiencies of the official scheme."



"Thames House," Grosvenor Road, Westminster.
Sir Frank Baines, F.R.I.B.A., Architect.

Architects' Charges.

Mr. Frank Pick, in his paper on "Railway Stations," read before the Royal Institute of British Architects on March 3 last, mentioned that the architect of the Picadilly Circus Station had to prepare seventy or eighty plans before the company were satisfied that the best scheme had been arrived at. He had taken the work on the usual commission basis, but as that would not pay him, the company, "out of compassion granted him a considerable sum of money to meet the cost of the plans he had submitted." Now that the scale of architects' charges is being revised, it seems desirable to make provision for the payment of something more than the usual commission where an excessive number of preliminary plans have to be made.

Architects and School Buildings.

The communication from the R.I.B.A. and the Liverpool Architectural Society, laid before the Liverpool Education Committee, suggesting the necessity of appointing fully qualified architects for the design of new schools, was allowed to remain on the table. Why? Could no reply be found? It is a perfectly reasonable claim that our qualified professional architects should be appointed to design our public school buildings, which, in these days, form quite a considerable item in professional practice. The effort to secure for architects the design of all buildings required for the public services ought to meet with reasonable encouragement from official quarters.

"Amazing" Charges.

A chairman of a municipal committee said he was not satisfied to pay 5 or 6 per cent. and other "amazing" charges rendered by outside architects. It appears from this that the usual architect's fees are referred to as "other amazing charges." Why should the recognised architects' fees be considered amazing? Obviously because, for one thing, "many schools were an aggregation of brick boxes of certain size with considerable repetition work." No wonder the services of architects are lightly thought of if they charge their proper full fees, and yet "repeat windows and doors and rooms of the same sizes!"

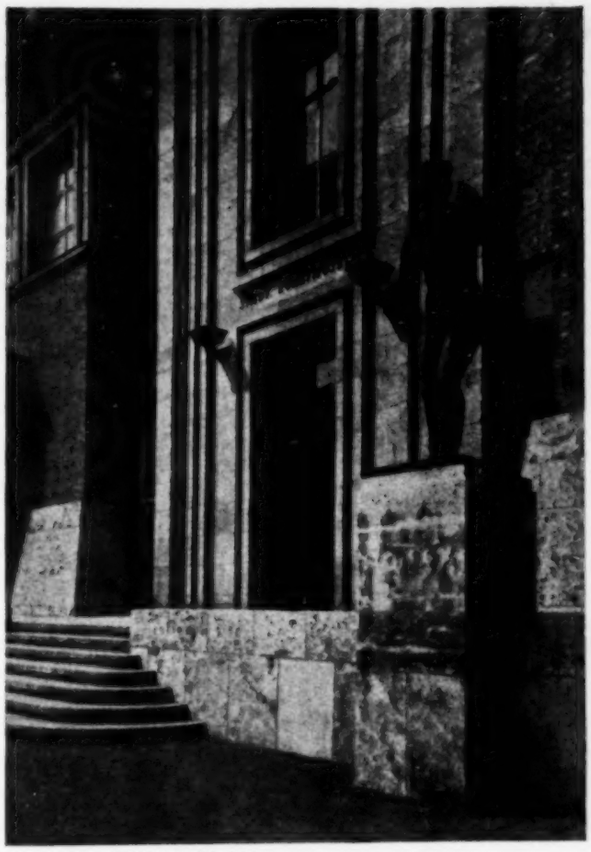
Research in the Building Industries.

We give on p. 680 an unusually interesting and able article on a subject of great importance to the building industries of this country, in which the author, Mr. F. M. Lea, M.Sc., gives an account of the research activities of some of the branches of the building industry in the United States of America. This article is based on observations on some of the industries concerned with the manufacture of building materials, in particular cement, but as the author remarks, his observations are in some measure applicable to a wider field. We recommend our readers to study Mr. Lea's article, but his summary

may with advantage be given here of the means by which the building industries in England can carry out research work relating to their own needs." Individual firms may establish their own research laboratories, an association of firms may form their own trade research association with its own trade laboratories, or firms may co-operate as individuals or groups with the Building Research Station. Each method has its own limitations and advantages. If really adequate support can be guaranteed over a fairly long period of years, the second method has much to commend it; the first, except on a small scale, will usually be limited to firms whose resources are considerable; the third method is at present being employed to a too limited extent, and could advantageously be extended in the cases where the nature of the problems involved, or the extent of the funds available, renders the formation of a trade research association undesirable or impracticable. Finally, much emphasis must be laid on the importance of adequate contact between industries and a Government research laboratory, which, like the Building Research Station, is devoted to work on the general problems of an industry."

Art and the Public. THE Flemish and Italian Exhibitions at Burlington House have shown conclusively that there is a considerable public interest in art. It is therefore gratifying to learn from Sir William Llewellyn that the R.A. Council is making plans for exhibitions during the next three years. In January and February, 1931, there is to be an Exhibition of Persian Art, organised in connection with the International Congress on Persian Art, which is to be held in London at the same time. In January and February, 1932, it is intended to hold an Exhibition of French Art, for which, on the proposal of the French Ambassador, the Royal Academy is collaborating with La Société d'Expansion Artistique et Littéraire, Paris. For January and February, 1933, there is being contemplated an Exhibition of British Art, on the same comprehensive lines as the recent exhibitions of foreign art. We are glad to note, bearing in mind the claims of living art and artists, that in the near future the Royal Academy propose to hold, as a supplement to the usual Summer Exhibition, a Winter Exhibition of Decorative Art.

Traffic Accidents. A SUGGESTION that light bridges might be thrown across our busy streets at vantage points is made in a letter we have received from Dr. F. J. Waldo, H.M. Senior Coroner for London. The writer stresses the increasing number of street accidents, and suggests that such bridges might be used in place of the more expensive subways which so many of the public dislike. A start might be made, he says, with King William-street Circus, and Holborn Circus. At these two places heavy statues are in existence which—in Dr. Waldo's opinion—are a considerable source of danger, and might well be removed to more fitting positions. Later, he continues, such bridges might be erected across some of the refugeless, tramlined roads—as the Old and New Kent-roads, Walworth-road, and the Blackfriars-road.



From the A.A. Exhibition of Sculpture.

Municipal Art Museum, Dusseldorf.

Housing Subsidies in Greece. A STRIKING example of the dangers of housing subsidies may be found in Greece, where the Government provided funds for the building of houses to be occupied by refugees. Altogether, in Athens and the Pyræus, the Greek refugee settlement commission has provided some 11,550 habitations. In theory an excellent arrangement was made by which the tenants agreed to pay a rent on the hire purchase system so that they might become the owners in fifteen years' time. The theory has broken down. Families rushed in far in excess of the available accommodation, and in some of these new, well-built houses, looking over spacious streets, there may be found more than one family in the majority of the rooms. There has also been an organised resistance to paying any rent at all. The tenants have put forward flimsy excuses—their poverty, their dissatisfaction with the accommodation, and other reasons. The Government has found it difficult to insist upon payment as every family means votes, and the politicians are always thinking of the next General Election. Furthermore, the provision of houses by the State and the Settlement Commission has made many families content to remain in the homes that are totally unfit for human habitation, for they are convinced that, if they only sit tight, they will in time be provided either with a free house or one at far less than the market rents.

An American View of European Housing. ALTHOUGH at the present time much has been written and spoken on the public platform regarding the tragedy of England's slums, outside students of the housing problem, who look upon England with impartial eyes, consider that Great Britain is far and away leading in housing progress. A Mr. Bernard Newman, the head of the Philadelphia Housing Association, recently made a housing tour around Western Europe. He praises Great Britain for the distinctive housing carried out, and the democratic distribution of tenants on the new housing estates. His conclusion is that Government subsidies throughout Europe "are not meeting housing problems anywhere, but are fatuously curtailing commercial construction while placing burdens on taxpayers in the furtherance of a policy which is economically and socially unsound."

GENERAL NEWS

Professional Announcements.

The partnership between Mr. Hubert Clist, A.R.I.B.A., and Mr. Eric L. Bird, A.R.I.B.A., has been dissolved, and Mr. Bird has entered into a new partnership with Mr. H. G. Atkin-Berry, A.R.I.B.A. The new firm will be known as Messrs. Bird and Atkin-Berry.

Mr. Aubrey Lane, L.R.I.B.A., architect and surveyor, of Burton Chambers, Mansfield, Notts, has taken into partnership his son, Mr. Philip M. Lane, and Mr. W. Richardson White, both having been associated with him for a number of years. The practice will in future be carried on under the style of Messrs. Aubrey Lane, Son & White. The firm have now moved to more convenient premises at Leeming Chambers, Leeming-street, Mansfield, Notts, at which address they would be pleased to receive catalogues.

Illness of Mr. W. J. Locke.

The condition of Mr. W. J. Locke, the novelist, who was operated on in Paris on Tuesday, was stated on Wednesday to be unchanged since the operation.

Proposed New Catholic Cathedral, Oban.

Proposals are on hand for a new Roman Catholic Cathedral at Oban, on the west coast of Scotland. The architect is Sir Giles Gilbert Scott, R.A., 7, Gray's Inn-square, W.C.1.

Return of "Eros" to Piccadilly.

At Tuesday's meeting of the L.C.C., Sir Marshall Hays informed Mr. J. P. Blake that it was certainly intended that the statue of "Eros" should be reinstated in Piccadilly-circus, but the exact position had not yet been settled.

Proposed New Service School, Barnsley.

Barnsley County Borough Education Committee has appointed Messrs. Dyson, Cawthorne and Coles as architects for a new elementary school in the north-west part of the town. A site adjoining Moneywell-lane has been selected, and sketch plans for a building to accommodate 640 scholars are to be immediately prepared.

New-street, Hull: Advisory Appointment.

It was agreed at a meeting of the Housing and Town-Planning Committee of the Hull Corporation on March 24 that the Corporation should retain the services of Sir Reginald Blomfield, R.A., an adviser in connection with the plans to be submitted for buildings in the new street from Paragon-square to the junction of Beverley-road and Spring-bank

Bequest to Edinburgh College of Art.

There has matured within the last few days a bequest of a large sum of money which is to be devoted to the interests of art in connection with the Edinburgh College of Art. The capital sum, it is believed, will amount to over a quarter of a million sterling, and the annual income is expected to reach about £15,000. The bequest will be held by the Town Council for the purposes indicated. The money was destined for this purpose some years ago by the testator, the late Mr. Andrew Grant. The bulk of the money, it is anticipated, will be allocated in the form of bursaries.

An Architect's Estate.

Mr. Edward Percy Thompson, A.R.I.B.A., of Bodimeades Cottages, Elstree, Herts, who died on February 20, aged 82, left estate of the gross value of £5,122, with net personalty £4,440. He left a copper washbowl from Newgate Prison which was pulled down in 1903 and iron stand belonging to it to Charles Griffin Lawson. "This is to be polished bright before it is handed to the said Charles Griffin Lawson. It is meant for use as a rose bowl." Various pictures by his brother, Matthew Raine Thompson, were left to Bedford Modern School, and to Harrow School certain stuffed birds in cases were bequeathed.

R.I.B.A. Final Examination and Acoustics.

The Council of the R.I.B.A. have decided, on the recommendation of the Board of Architectural Education, that all candidates taking the Final Examination in 1932 and subsequent years shall be required to include in the four Testimonies of Study, for which they must secure approval before being admitted to the examination, one out of the two subjects set annually as R.I.B.A. Problems in Design involving a simple acoustic treatment with calculations to give the appropriate time of reverberation. A list of articles and books on the subject will be issued with each list of R.I.B.A. Problems in Design to guide candidates in obtaining the necessary information. Two subjects involving acoustic treatment will be included for the first time in the list of R.I.B.A. Problems in Design for 1931.

Short Courses for Teachers.

The Welsh Department of the Board of Education has been impressed with the need for a greater recognition of the value of craftsmanship and good workmanship in everyday life in Wales. In order, therefore, that teachers in Wales may see and study for themselves what is being done to-day by capable students and craftsmen, the Welsh Department of the Board of Education has made arrangements for a short introductory course in "The Appreciation of the Crafts" to be held in London at the Royal College of Art, South Kensington, S.W.7, from August 4 to August 16, 1930. The course will be under the special direction of Mr. John Thomas, H.M.I., who will be assisted by Miss A. White, H.M.I., and Mr. J. M. Holmes, Slade Diploma of Fine Art, together with an expert staff. Full details of courses, boarding and travelling arrangements, may be obtained from the Board of Education (Form 105 U.) (W. iv.).

New London Tube.

Extension of the Piccadilly tube in a north-easterly direction from Finsbury Park to Cockfosters was approved by a Select Committee of the House of Commons on April 1. Mr. Frank Pick, managing director of the Underground, said the Bill contained, in addition to the north-eastern extension, one to the westward, and there would also be miscellaneous works on the Central London and District lines. The total cost will be £13,030,000. Counsel for the promoters said Russell-square Station in Bernard-street would be adandoned and a new station constructed in Russell-square itself. Dover-street Station would be closed and a new one made by the Ritz Hotel. The station at Hyde Park Corner would be moved to a more convenient spot. As a result of this it would be possible to close Brompton-road and Down-street Stations.

"The Legion Book."

Architects and members of the allied professions and crafts who served in the Forces during the War will be interested in the progress of "The Legion Book." This unique book, written and illustrated, at H.R.H. the Prince of Wales's personal invitation, by no fewer than fifty of the most famous novelists, poets and artists in this country, was published in aid of the British Legion, and the King expressly desired that the money resulting from its sale should be regarded as a thank-offering for his recovery. It is strongly hoped that a particularly wide response to the Prince's appeal will be made during his absence. If his expectations are to be realised, at least 100,000 copies of the book must be sold. Copies, price £1 1s., may be obtained from Admiral Sir Lionel Halsey, Comptroller and Treasurer to his Royal Highness, direct from St. James's Palace. Everyone who writes to him there will receive with the copy or copies applied for his acknowledgment on the Prince's behalf. The proceeds from the sale of the book go to the Prince's personal fund for the British Legion.

COMPETITION NEWS

New Masonic Hall, Enniskillen.

The Masonic body of Enniskillen invite from architects practising in Ireland competitive designs for a new Masonic hall to be erected in Enniskillen. A premium of £50 will be awarded the architect sending in the successful design. The assessor is Mr. John Seeds, F.R.I.B.A., Past President of the Ulster Society of Architects, 7, Donegall-square, West, Belfast. Full particulars as to conditions governing competition, site plans, levels, etc., can be had on application to Mr. R. W. Smith, Hon. Sec., Building Committee, Masonic Hall, Enniskillen, such application to be accompanied by a deposit of £1 1s., returnable to each competitor who submits a design.

Proposed Municipal Buildings, Chapel-road, Worthing.

The Corporation of Worthing invite architects of British nationality to submit designs in competition for municipal buildings, etc., proposed to be erected in Chapel-road, Worthing. Mr. Henry V. Ashley, F.R.I.B.A., is the assessor. Premiums of £350, £250, £150 and £50 will be paid to the authors of the designs placed first, second, third and fourth in order of merit. Applications for conditions of competition, etc., should be made forthwith to Mr. J. Kennedy Allerton, Town Clerk, Worthing, accompanied by a deposit of £1 1s. Designs have to be sent in by 12 noon on Saturday, July 5.

Design Competition for Aeroplane Hangar.

In conjunction with the Association of Architects, Surveyors and Technical Assistants, Messrs. Ewart and Son, Ltd., offer prizes of free places in the A.A.S.T.A. tour to Madrid and Spain (approximate value £20) for drawings showing a lock-up hangar suggesting the possibility of an external sheet copper covering on a light steel framing. There will be two classes, A and B, for those respectively over and under 25 years of age on May 16, 1930. Full details may be obtained from the secretary, A.A.S.T.A., 26, Buckingham Gate, S.W.1, to whom designs must be sent by May 16. Messrs. W. H. Hamlyn, A.R.I.B.A., Charles McLauchlan, A.R.I.B.A., and A. N. Cathcart are the assessors.

COMPETITIONS OPEN.

	Particulars published in	Sending in date
R.S.A. Competitions for industrial designs. £1,900 in scholarships and prizes. Full particulars from Secretary, Royal Society of Arts, John-street, W.C.2 ...	"Builder." Jan. 31	May 26
New Public Library and Museum, for Chelmsford T.C. Mr. H. V. Lanchester, F.R.I.B.A., assessor. Conditions from G. E. Barford, Town Clerk, Clerk's Office, Chelmsford. Dep. £1 1s.	Feb. 21	June 14
New Town Hall and Municipal Buildings, for the Luton T.C. Premiums of £500, £300, £200 and £100. Sir Brumwell Thomas, F.R.I.B.A., assessor. Conditions from Mr. W. Smith, Town Clerk, 2, Upper George-street. Dep. £2 2s.	Mar. 14	—
Public Baths, for Corporation of Kingston-upon-Thames. Premiums of £300, £200, £100 and £50. Mr. J. Ernest Franck, F.R.I.B.A., assessor. Conditions from Mr. A. W. Forsdike, Town Clerk's Office, Kingston-upon-Thames. Dep. £1 1s.	Mar. 14	June 14

A Thames Beauty Spot.

Haversham Grange, Twickenham, on the Middlesex side of the Thames, adjoining Cambridge Park and Marble Hill Park, and forming part of the far-famed view from Richmond Hill, has been sold. The house is to be converted into four flats, and out of the garage and stables is to be built a modern residence. The beautiful well-timbered grounds surrounding the house and extending to the towpath skirting the river will remain practically untouched.

CORRESPONDENCE

The Calton Crag Controversy.

SIR,—My attention has been called to a rather sneering letter in your issue for March 21 on the above subject. I freely admit that "Anti-Humbug" scores a rhetorical point or two, particularly where he scoffs at the Royal Incorporation's assumption of the existence and vitality of a Scottish style in architecture. The work of the Adams, he contends, was not typically Scottish. He is right if the term "style" be interpreted as referring merely to archæology. He is wrong if it be expanded to mean "architectural quality" in the sense in which "literary quality" is understood in a sister art. It is the latter sense in which the modern architect understands style. In that sense Robert Louis Stevenson's work was Scottish in its essence. In that sense the Adams' work was truly Scottish, though not a detail of it may have been referable to any Scottish archæological prototype.

Through the veil of "Anti-Humbug's" pseudonym one can make a shrewd guess at his real name and the circumstances that have induced him to assume this attitude. But the letter is so well written, in spite of its rancour, that it may do harm. It may carry a greater weight with the less well informed public than is its due, or than it carries with any who are able to read between the lines. It is not denied that the Scottish architects have "an axe to grind." They claim, however, that this is the same axe as that of the Scottish public. "Anti-Humbug," for reasons of his own, is grinding a different axe—the official one.

JOHN BEGG, F.R.I.B.A.
President, Edinburgh Architectural Association.

23, Rutland-square, Edinburgh.

Government Officials and Private Work.

SIR,—For an Associate of the Royal Institute, Mr. V. Leslie Nash's views on this question are surprising. He profoundly disagrees with me in a most polite and gentlemanly manner. He thinks my views should be combated because they are widespread. The fact that they are widespread might be taken as evidence of their truth.

I have no objection to his adding "banks, breweries multiple firms, railway companies, departmental stores and shopfitters" to the list of offenders. He predicts the disappearance of the private practitioner. If his prophecy is correct, we are then faced with the ultimate disappearance of the Institute, or the Institute will ultimately represent only salaried architects. This appears quite logical, but it may not be exactly what Mr. Nash would consider desirable.

I have not the latest statistics beside me as to the birth rate over the last 40 years, but I understand that in this country the birth rate is steadily falling. If this is so, how could the world of 40 years ago be considered a small-scale community? Mr. Nash produces no statistics to prove his statement that well over half of our profession is already engaged on a salaried basis, nor does he define whether this includes all grades of assistants. If it does, then he is simply manufacturing figures to suit his case.

It is generally understood that an architect is more concerned about the artistic side of the profession than the mere economic one, and if the Association of Architects, Surveyors and Technical Assistants is only concerned with economic problems, then it is at total variance with the Institute's declared policy that the progress of architectural design is the chief aim of all decent architects, and the greatest good for the greatest number can best be achieved by adhering to this ideal.

I do not care how drastic Mr. Nash's future proposals may be, but I do hope they will be more imaginative. I am unacquainted with the position of affairs in London relating to the encroachments of official architects and their staffs, but in the provinces I am informed that private work is done in the official premises, and contractors call to estimate for such work during official hours, and that such work in progress is visited by official members of such staffs during office hours.

WILLIAM DAVIDSON.

SIR,—Your correspondents, Mr. Davidson and Mr. Nash, are at issue regarding the question of public architectural officials engaging in private practice as affecting the interests of the profession. This aspect of the matter is, of course, of vital importance, but the point—as raised in Parliament on several occasions—is the irregularity of the procedure as affecting public interests. It is important that the principles involved should not be confused.

It may be that in course of time private enterprise will disappear, and we shall all become salaried officials, as suggested by Mr. Nash. It is desirable to anticipate likely changes in business methods as time goes on, but very unsafe to rely upon prevailing tendencies of this kind occasioned by political stunts. As architects in private practice are at present required to contribute towards the upkeep of public architectural officials, Mr. Davidson's contentions are correct as affecting the interests of the profession. The practical way to safeguard such interests is to realise existing conditions, and base suitable action on these facts. It is useless merely to consider theories regarding conditions of employment in years to come.

Mr. Nash's statement that multiple firms and others engage architects on a salary basis does not affect the position. These employees are not paid out of public funds, and even if they did engage in private practice—with or without the permission of their employers—no harm would be done to public interests. Briefly, the difference between architects employed by private firms on a salary basis and permanent architectural officials is: In the former case, the employers arrange services to meet the requirements of work. In the latter case, work must be found to keep the officials employed. Chief officials obtain as many assistants as possible in order to support applications for more pay. The whole system is wrong in principle, and this applies to all public architectural departments.

Questions of this kind are confined to public architectural services, and it is to the credit of other officials that they do not require official regulations to govern their spare-time occupations. The original point of contention is not whether public authorities should carry out work by means of salaried architects, but whether these officials should be allowed to carry on private practice in spare time. This involves public interests in many ways, and much has been said against the arrangement, especially by certain members of the present Government. I suggest that before anything more is done regarding other aspects of the matter, a determined effort should be made to settle this question of so-called spare-time work in the architectural departments of all public authorities.

J. D.

The Shaftesbury Memorial Fountain.

SIR,—Your note in last Friday's issue, where you said "the place of Eros is in Piccadilly," is not quite definite. Do you mean in Piccadilly Circus or on the Green Park site overlooking Piccadilly, as advocated by the Royal Academy? May I repeat that the insuperable objection to the re-erection of the Shaftesbury Memorial in the centre of Piccadilly Circus is due to the impossibility of allowing the water jets of this fountain fair play. The available space in this crowded and traffic-congested spot is manifestly inadequate. I remember seeing passers-by drenched to the skin when the structure, after its unveiling, was allowed to display its aquatic beauties. Subsequently the water, therefore, was only allowed to dribble feebly. No one, so far as I am aware, has attempted to answer this disparagement of Gilbert's masterpiece. Sir David Murray has now told us how the great sculptor of Eros intended his entire conception to occupy an unrestricted setting suitable for the efficient display of such a monumental fountain midst a befitting environment where so splendid work might be seen to the best advantage. The proposed available site in Piccadilly, adjacent to the famous gates brought by the Duke of Devonshire from Chiswick House and now skirting the Green Park, supplies precisely a worthy situation in the heart of the Metropolis. The London County Council would be wise to adopt this suggestion of the Royal Academy.

MAURICE B. ADAMS.

[*** Our reference was to the site in Piccadilly-circus, as should have been apparent from the context. It was announced at Tuesday's L.C.C. meeting that "Eros" would certainly be reinstated at Piccadilly-circus—but on a site not yet selected. This decision is in accord with the sculptor's own wish, as we stated last week.—ED.]

LIVERPOOL CATHEDRAL PROGRESS

In the absence of severe frost, considerable progress has been made with the new section of Liverpool Cathedral during the last few months, especially on the north side, where the crane collapse in September had occasioned substantial delay. According to the "Cathedral Builders' Quarterly Bulletin," the walls on the north and south sides are once again approximately level, the average height of the stonework being 58 ft. on the south side and 53 ft. on the north. A new and prominent feature of the site is the steel crane which already overtops the roof of the choir, and will shortly be completed to its full height of 175 feet. While this crane is being erected the work has of necessity been suspended on the south wall of the central space, as the old jib by the King's porch can no longer be used. The number of masons now employed is ninety-eight and eight apprentices, and the total number of men employed on the site and at the builders' yard, 170, an increase of twenty-two since the corresponding date last year, due primarily to the extra accommodation furnished by the demolition of the chaplain's house. This increase, coupled with the fact that shortly each of the four cranes at the four corners of the site will, for the first time for six months, be in simultaneous operation (adds the "Bulletin"), should ensure a marked increase in the rate of building during 1930.

Housing Conditions in Paddington.

The Westminster Survey Group has issued a survey of the borough of Paddington which for several reasons will attract attention. The Clarendon-street area near the canal is described as one of the most discreditable in London. The surveyors' tabulated facts appear to prove this up to the hilt, and the summarised conclusions attribute the miserable conditions to poverty, bad landlordism and shortage of houses—no use whatsoever having been made of the 1923 and 1924 Acts, although last census showed that twenty thousand people were overcrowded. The report concludes by suggesting that the co-operation and combined good will of both might, together with a housing rate of 3d. in the £, do much good. "The task of the Borough Council is impossible of fulfilment unless and until public opinion accepts, not only in theory but in practice, the position that houses must be built with public money and let at uneconomic rents—the deficit being defrayed either by the rates or by the taxes." The names of the Westminster Survey Group and of their surveyors are given in the report, which is obtainable for 4d. post free from the Weardale Press, Ltd., 26, Gordon-street, W.C.1.

BERLIN.—III

By F. E. BENNETT, A.R.I.B.A., and K. WINTER.

RESTAURANTS, CAFES AND HOUSING.

Berlin is full of restaurants and cafés; everybody seems to spend the evenings out of doors, and every type and grade of person is provided for. Berliners in thousands flock out at night to find distraction in surroundings of gaiety and bright illumination, and even the poorest have their beer-houses, where they spend the leisure hours.

Following this new phase in the social life, the restaurants and cafés have taken on new and fashionable dressings. A competition has arisen between these establishments to obtain strange and startling effects, and many forms of ingenuity are strained to this end. Lighting has been seized upon as a valuable decorative effect and developed into most extraordinary forms. In the Café Hans Gourmenia the lighting constitutes the all-dominating feature of the decorations. Two large piers, rising direct from floor to ceiling, support a formation of strip and point lights and glass and metal mirrors climbing upwards in a fantastic and machine-like mass. Great pylons, solid and white, but lit up to appear translucent at night, announce the exterior of the café.

The Weinrestaurant Traube, which is next door, and designed by the same architect, Leo Nachtlicht, is still more luxurious, and a good example of the modern type. Here the dominant feature is a glass ceiling lit from behind. The decoration is developed by a bold formation of tubular lights suspended from this ceiling, and then, from the ground, glass tubes of light spring up in erect and fountain-like formation, carrying water into small flower-like cups beneath. The body of the restaurant is arranged in two balconies around a central well, and designed for a winter-garden effect. Goldfish swim in pools sunk into the paved floor, and tropical plants are arranged in a rich profusion. The balconies are severe and set off the abstract patterns of the ceiling. Circular staircases, with solid balustrades covered with stretched velvet, and with soffits of mirrored glass, lead from one balcony to another and project into the well, giving an extremely rich effect. At the point where these staircases lead to the dance floor on the roof, the arrangement of mirror glass gives them the effect of disappearing altogether. Great use is made of strip lights, direct and indirect, and grouped in single or multiple lines. The light fittings themselves, mostly of geometrical form, were designed by the architect to be in character with the building. They are designs only possible with electric light, but, while very interesting, have the fault in some cases of obscuring too much light.

The Kroll Haus is one of the specially attractive cafés, and three others of particular note are the Haus Vaterland, the Café Woertz, and the Café Berlin.

* * * * *

The Roman form of lettering now used for display purposes is made very severe, generally arranged with some value of design, but sometimes exaggerated out of recognition. The sketch given (see previous article) is an example of the exaggerated type, but also one of considerable merit. Large signs of lettering placed vertically are a feature. They have a strong composition value, especially in narrow frontages, serving to direct attention to the shop below.

Generally speaking, ironwork is strikingly plain, with stressed horizontal and few supports; while steel, being expensive, is not much used in shop-fronts, but only for minor details.

* * * * *

As well as the street façades, the theatres and the cafés, one goes to Berlin to see also the new private houses. They are scattered and not easy to find, but, having seen them, they leave a definite impression on the mind—that the German architects are sure about one thing in architecture, even if they are not about other things: it is, that however difficult the restrictions in the designing of a building may be, there is always the opportunity to make an interesting arrangement of shapes—to gain a quality of abstract form. Ornament of any sort costs money, but shape need not. Studies in abstract form are not, of course, the peculiar product of Germany, but the German variety is peculiarly direct and final, and occasionally even borders on the brutal. It is a form which must seem repugnant to some people, especially to those who have had no occasion to acquire a taste for it; but at a time when the popular taste for sentimentality is being inflated so much to serve the purpose of commercial enterprise we find this expression of pure abstract form very refreshing. Several of these examples are illustrated in the accompanying sketches.

* * * * *

Two of the new housing schemes in Berlin are the Gehag Settlement and the Britz Settlement, deigned by Bruno Taut, at Neukolln, the new colony. These are large schemes laid out in separate blocks as far as possible to obtain a maximum of sun and air. There are one-family and two-family houses, and an endeavour has been made, on the English principle, to give each family a certain amount of garden. The Gehag Settlement, which was portioned out to various architects of repute, is set amongst a young birch and pine forest. The usual accommodation of the single family house is two floors with an attic under the roof containing a washing room and storage space. Most of these houses have flat roofs and are built of concrete, coloured variously and in parts with white and pale tones of blue, green, yellow, or pink.

Good colour is a special feature; inside as well as out. There are dados with fawn, grey and black tiles and coloured tile borders, while others are formed of a fine concrete from which the surface has been rubbed and then oil rubbed in. This shows up the small stones in the aggregate and turns the cement light brown—a finish of pleasant appearance and one easily cleaned. The careful design of the buildings combined with the surroundings of trees and the good use of colour produce a most charming result. Standardisation has been resorted to as a means of reducing cost, and most of the fittings, such as doors, windows, folding beds, built-in cupboards and chests of drawers, and bathroom and kitchen equipment, usually designed by the architect, have been made this way. The windows have been standardised too, but are made of wood and rarely of metal as in England. Fine premises for the general store take a central position and include a garden café in the open air. It is the practice in this scheme to complete the roads before the houses are built so that tenants shall have proper access from the beginning. The houses are sold to the tenants on a thirty years' purchase system on the condition that they may not re-sell except to the State.

The Britz Settlement differs from the other in consisting mainly of flats for a poorer class of tenants. These flats are usually of two or three rooms, perhaps with kitchen and bathroom, and a general floor height of 12 ft. The blocks are planned around rectangular courts, while some are semi-circular and some horseshoe shape. The buildings are not usually more than four stories and one attic high, although a few are six stories high. There are no lifts, and staircases serve two flats on each floor. In some blocks the bathrooms with washhouses are placed in the basement—one to ten or twelve flats. Each family has its balcony, facing south where possible, in some cases the balconies being made continuous to provide a common circulation.

Some of the concrete used in German housing schemes is in the form of pre-cast slabs and go to a size as large as 6 ft. by 3 ft. with 5 in. of thickness. These slabs when built are said to be perfectly weather-proof and warm. Wood is used for floor joists and the covering and when roofs are pitched plain, and pantiles are often used. Ironwork, lamp standards, notice boards and such details are nearly always well designed and kept simple.

Generally, it may be said that while the workmanship in these Berlin housing schemes is somewhat rough and the materials are not always of the best, the character of design reaches a very high standard.

* * *

A sight-seeing trip to Berlin leaves very much the same impression as the film "Berlin," which was a series of scenes and incidents taken at random and following one another in quick succession, without any apparent relevance to anything. One may go to see new buildings and hope to get a clear impression, and perhaps some opportunity for reflection.

One feels that while there is so much that is dynamic and startling, there is no pompousness, and really few stunt buildings. Most of the new buildings seem quite sensible and what ought to be there. Where there is an unusual shape there seems to be a good reason for it.

"Scale" is a new element, or rather, it is undergoing a change. Whereas in London, with our new buildings, we seem loth to do more than compromise between the early Georgian scale and the scale which our enlarged outlook demands, the Germans have swept fully into it and design on much larger lines.

Of the architects themselves, it would seem they have striven to gain effect by new materials. They have the use of new mechanical methods of building, of greater speed in production, and they have felt the need for something simpler to replace the florid, over-decorated Wilhelmian type. They are all thinking, contriving in a new way; initiative, imagination and courage have come to these men. They are the fortunate apostles of a new age; fortunate in being called on to express a new spirit rising up in the country. They have gained a flexibility which has been the means of producing a new architecture, now well established.

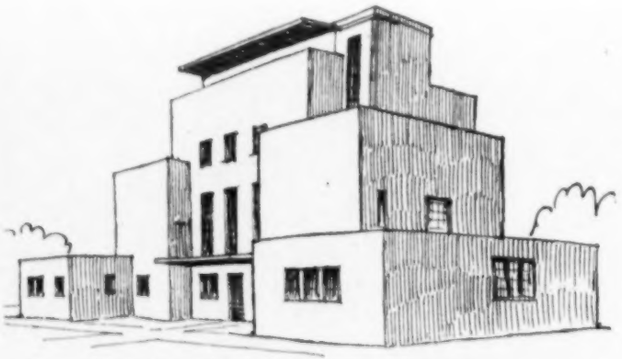
(Concluded.)

New Rotherham Bridge.

The Minister of Transport, Mr. Herbert Morrison, M.P., will formally open the new Chantry Bridge at Rotherham on April 28. The scheme of reconstruction, which has occupied two years and has cost £100,000, was designed by the borough engineer, Major Vincent Turner, and Messrs. L. G. Mouchel and Partners, Ltd., of Westminster. The new bridge is built with a skew span of 94 ft. 6 in., and has a clear square span of 87 ft. The distance between the parapets is 60 ft., providing for a 40 ft. carriageway and two 10 ft. footways. Sir Reginald Blomfield, R.A., was consulted on the architectural treatment and the restoration of the original fifteenth-century bridge which bears one of the few remaining chantry chapels in the country. The width of the river at this point has been considerably reduced, so that the chapel is now on dry land.

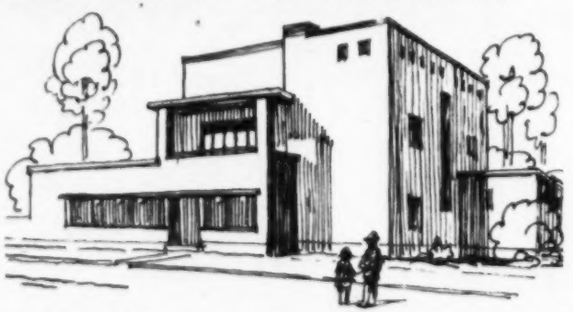
Liverpool Cenotaph.

The Liverpool Cenotaph Committee met recently under the chairmanship of Sir Thomas White. Photographs of the bronze work now in course of execution were inspected and explanations were offered by Professors Reilly and Budden. An assurance was received from Mr. Tyson Smith, the sculptor, that the Cenotaph will be completed in time for the next Armistice Day.

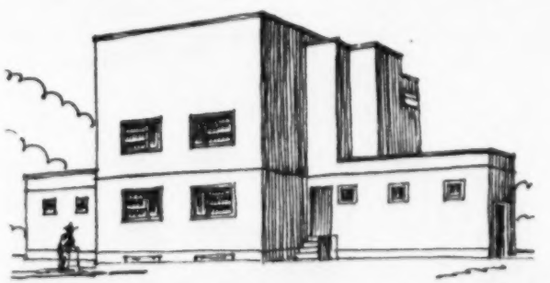


House in Berlin—Wilmersdorf. HARRY ROSENTHAL, Architect.

Block of Dwellings in Berlin—Lichtenberg. ERWIN GUTKIND, Architect

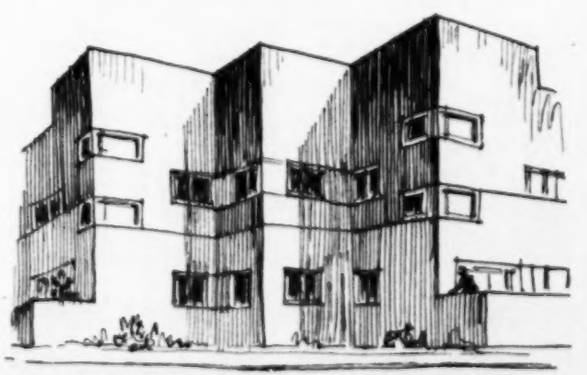


Portion of the Gehag Settlement, Zehlendorf, Berlin. BRUNO TAUT, Architect.



Domestic Building in the Flackbau Settlement. ERWIN GUTKIND, Architect.

Villa in Berlin. ERICH MENDELSOHN, Architect.



Block of Flats in Karol-Ingerplatz, Berlin. ERICH MENDELSOHN, Architect.

Modern German Domestic Architecture. (See page 658).

ACOUSTIC CONSTRUCTION—III.

By C. W. GLOVER, A.M.Inst.C.E., M.I.Struct.E.

RESONANCE GENERALLY.

In the continuation of the study of the correct balance of absorption throughout the range of audio-frequency, the reader should appreciate the effect of resonance, as by the proper control of resonance the acoustics of the auditorium may be improved almost beyond measure. It is not sufficient merely to reduce the reverberation to the desired period, but the auditorium must of itself possess resonating qualities and a brightness of tone.

The music auditorium should be as free from deadness as from excessive reverberation; it should, in fact, be musical of itself and possess marked tonal qualities.

Air Resonance.

The reader is no doubt familiar with the vibration response of a bridge to a successive occurrence of a properly timed tread or to the excessive rolling of a floating body under the action of periodic wave motions. Acoustic resonance is an analogous phenomenon, the effect of which can be more clearly understood by carrying out the experiment described below.

In a quiescent swimming bath a bather can induce waves by a rapid depression of his arm on the surface of the water. The waves thus formed will travel outward until they reach the side of the bath when they will be reflected and return to the bather. If he again depresses his arm, with the same force as before and at the right instant, the wave will be much amplified and larger waves will be produced without the expenditure of a greater amount of energy. If the motions of the arm are not correctly timed the original waves will not be reinforced, but by interference will be reduced in amplitude. If the motions of the arm are irregular, waves having different periodicity will be superimposed upon the rest, and a confusion of wave motions will result. Upon reflection the reader will at once realise that the periodicity of the resonant waves will depend upon the speed of travel of the waves and the distance over which they must move before they are back for reinforcement.

Applying this analogy to the phenomenon of acoustic resonance, it will be easily understood why all auditoria have their own particular resonant note—a higher pitch for the smaller room and a lower note for the larger. This is due entirely to the resonance of the air in the room, and is distinct from resonance of the room itself, which is brought about by the vibration of the walls, floor and ceiling.

Resonance alters the total amount of sound in the auditorium and always increases it. Its effect is not uniform throughout the range of audio-frequency, some notes of a complex sound being amplified and others not. The quality of the tone is, therefore, altered and the sound level increased in the region of the resonant note of the auditorium.

Musical sounds are fortunately too complex and single notes seldom sustained sufficiently long to cause serious trouble by the excitation of air resonance in auditoria. On the other hand, wall resonance is more easily excited, and it is by its careful control in selection of materials and in the correct construction that the desired tonal qualities of the room are obtained.

Structural Resonance.

A resonant effect is produced by the coincidence of the period of the exciting external vibration with the natural period of oscillation of the body shaken. A body subjected to an elastic displacement from its normal position of equilibrium will (upon the removal of the displacing force) vibrate backwards and forwards until the damping forces of friction and air resistance bring it again to rest. If one opens a piano front and sings or whistles a loud note, the piano returns the same note. Those strings whose frequencies bear a single relation to that of the note have been thrown into resonant vibration.

Tuning forks are frequently mounted on resonance boxes, which are simply boxes of such a size that the air in them resonates to the fork. If one places two forks of the same pitch on their resonance boxes with the open ends of the latter facing each other, after one fork has been bowed and then immediately stopped, the second fork is found to emit a loud sound, due to vibration in resonance with the original fork. Thus, if incident sound waves impinge upon a body in successive impulses exactly timed to the natural period of oscillation of the body, the body will vibrate by resonance, and will sound the same note as that of the origin. The period of each swing ordinarily depends upon the displacement caused by the application of a force of unit intensity

The period of vibration in secs. =

$$2\pi\left(\frac{M}{b}\right)^{\frac{1}{2}}$$

where M = mass of the vibrating body in lbs. and b = the force required to move the body through unit displacement.

This force is in turn a function of the strength and elasticity of the material subjected to vibration, and also depends upon the rigidity with which it is fixed, and the proportions of the unsupported surface, involving thickness, breadth, and span.

Generally speaking, the larger the surface under vibration, the lower will be its note, though large surfaces stiffly designed and constructed will have a higher note than those of flimsy proportions. It is possible to calculate the natural period of vibration for a structure or its component parts, the former being a much more complicated investigation than the latter. It will be evident that the various portions of the structure will respond to their own particular pitch of sound, and provided these pitches vary over a reasonably wide range, the resonance of the building will be of great assistance in the control of good musical tone.

As already pointed out, wood resonates over a very wide range of musical pitch, and it is for this reason that so large a proportion of wood panelling has been recommended in covering the wall surfaces of the music-room example we are considering. It is usually found that in concert-rooms noted for their excellence of acoustic tone, wood surfaces are used largely for the linings, and timber framing is used for the structure itself. In this we see the application of the technique of musical instrument making applied to building construction. It will readily be appreciated that resonance over the full range of frequencies is desirable, and endeavours should be made, therefore, to construct the acoustic lining in such a way as to obtain widely different resonant notes in the panels disposed over the wall surfaces.

A crude method of testing the note is to tap the panels and observe the answering note. Timber panels should be so designed as to give about middle pitch when tapped, and panels of absorbents arranged so that their natural period of vibration is below that of audio frequency. In this way the absorbing power of the panel becomes greater at the lower frequencies and the balance of absorption is thus largely adjusted.

Fig. 12 shows suggested constructional details of the acoustic lining of the music-room under consideration. We shall refer again to these details when considering the transmission of sound through the structure, but in respect of acoustic control within the room the following points should be carefully noted :—

(1) The wood panelling should be kept highly polished in order to increase the reflection of the upper partials and so brighten tone.

(2) The wood panels should be fixed to timber framing through pads of fibre board, which, maintaining its cellular structure, introduces a cushioning effect and minimises transmission of sound by preventing direct structural contact.

(3) The boldly projecting pilasters on each side of the absorbent panels serve to break up the wall surface and cause the reflections to be diffused in all directions.

(4) The fixing of alternate absorbing panels round the edges only in the manner shown on the details, introduces the cushioning effect, minimises structural contact, and induces absorption of the lower frequencies by resonance.

If decorated fibre boards are used in place of those shown on the details, it will be found necessary to suspend them along the top edge to prevent bulging. Every alternate absorbent panel should also be fixed some 6 in. inwards from the edge in order that it shall not have the same natural period of vibration as the panel fixed on either side of it.

(To be continued.)

CENTRAL SCHOOL OF ARTS AND CRAFTS

Colour in Architecture.

Sir Banister Fletcher, P.R.I.B.A., in his lecture on March 26, at the Central School of Arts and Crafts, discussed the further development of architectural style which was consequent on the removal of the capital of the Roman Empire by Constantine in A.D. 324 from Rome to the old Greek city of Byzantium, which was renamed Constantinople. The change was made for strategic and commercial considerations, and it indicated not only the progressive commerce of those days, but also the foresight and enterprise of the first Christian emperor, which had secured for him the title of "Constantine the Great."

Constantine had established Christianity as the State religion in A.D. 323, and it was only in accordance with human nature that differences and disputes should arise, and when later the Church was divided, Constantinople took the lead of the eastern division of the Church. A basilican church was there erected by Constantine, and this site was afterwards selected by the great building emperor, Justinian, for his great church of "Hagia Sophia," or Divine Wisdom. Roman tradition, Greek talent, and Oriental surroundings combined to develop a curiously clever compound of architectural character which was now known as Byzantine. It was a compromise between the Roman science of construction and the accepted eastern method of domical building. Certain aspects of eastern Christianity also contributed modifications to the plan, for in the east there was only one altar, in contrast to the many altars of the Roman Church. The sanctuary was cut off from the rest of the church by a huge iconostasis, or painted screen. Here, again, the east differed from the west; in the former, which dreaded idolatry, no carved figure was permitted, and so it came about that coloured marbles and glowing mosaics were used to sheath the walls. The one and only altar and a use of a central dome together made a great central space more natural than long-drawn nave and aisles of basilican type. The great new feature was the use of a circular dome brought by means of pendentives in the angles to a square plan, and it was this dome which made the main tendency of Byzantine architecture vertical in effect.

Builder's Estate.

Mr. John Edward Dean (65), of Beech House, Barkers-lane, Ashton-upon-Mersey, Cheshire, builder and contractor (net personalty £16,876), left £35,876.

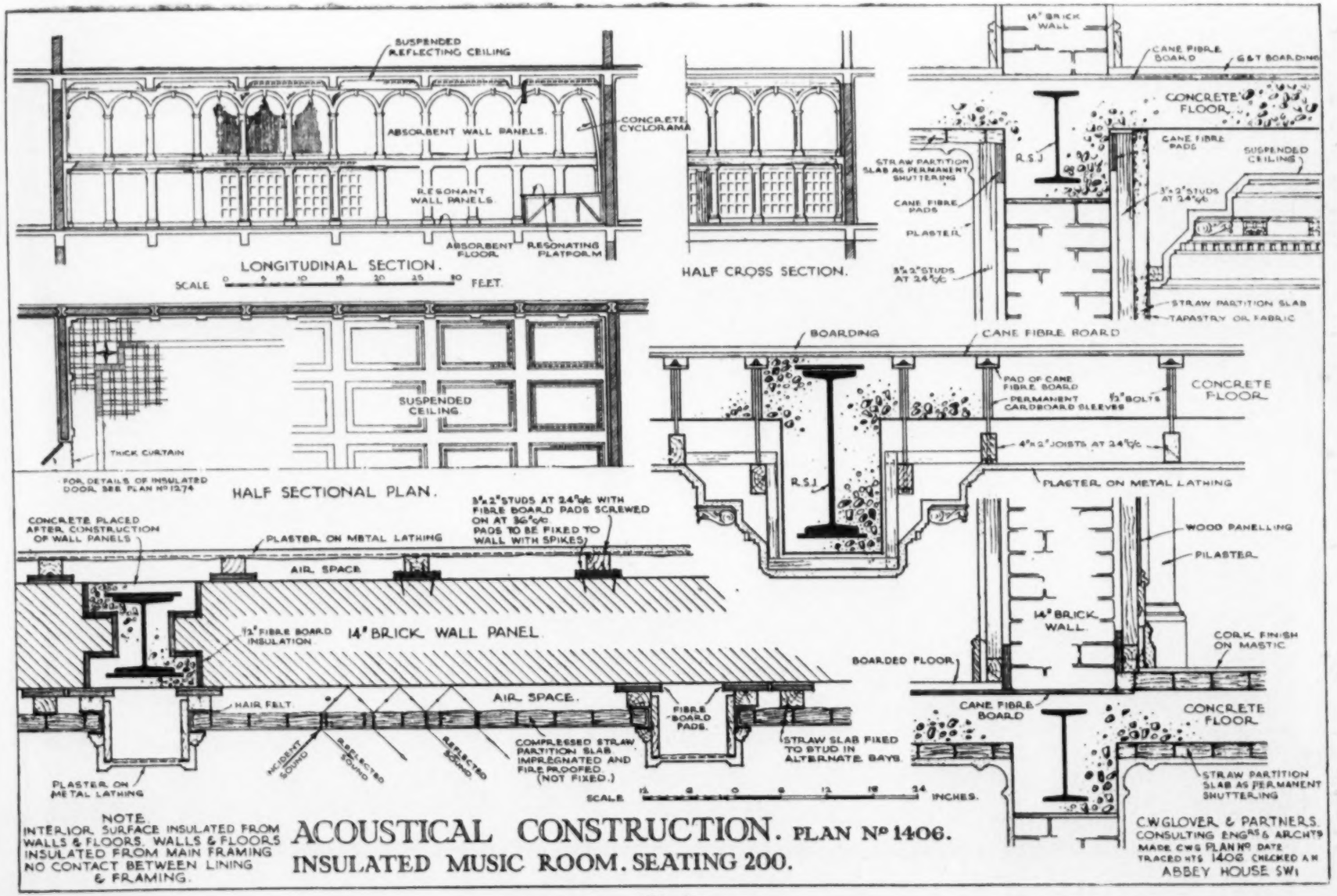

SUSPENDED REFLECTING CEILING
ABSORBENT WALL PANELS.
CONCRETE CYCLORAMA
RESONANT WALL PANELS.
ABSORBENT FLOOR
RESONATING PLATFORM
LONGITUDINAL SECTION.
SCALE 0 5 10 15 20 25 30 FEET.
HALF CROSS SECTION.
14" BRICK WALL
CANE FIBRE BOARD
G&T BOARDING
CONCRETE FLOOR
CANE FIBRE PADS
SUSPENDED CEILING
STRAW PARTITION SLAB AS PERMANENT SHUTTERING
CANE FIBRE PADS
PLASTER
R.S.J.
3"x2" STUDS AT 24" c/c
STRAW PARTITION SLAB
TAPASTRY OR FABRIC
SUSPENDED CEILING.
THICK CURTAIN
FOR DETAILS OF INSULATED DOOR SEE PLAN No 1274
HALF SECTIONAL PLAN.
BOARDING
CANE FIBRE BOARD
PAD OF CANE FIBRE BOARD
PERMANENT CARDBOARD SLEEVES
½" BOLTS
CONCRETE FLOOR
4"x2" JOISTS AT 24" c/c
R.S.J.
PLASTER ON METAL LATHING
CONCRETE PLACED AFTER CONSTRUCTION OF WALL PANELS
PLASTER ON METAL LATHING
3"x2" STUDS AT 24" c/c WITH FIBRE BOARD PADS SCREWED ON AT 36" c/c. PADS TO BE FIXED TO WALL WITH SPIKES)
AIR SPACE
½" FIBRE BOARD INSULATION
14" BRICK WALL PANEL
HAIR FELT
AIR SPACE.
FIBRE BOARD PADS.
COMPRESSED STRAW PARTITION SLAB IMPREGNATED AND FIRE PROOFED. (NOT FIXED.)
STRAW SLAB FIXED TO STUD IN ALTERNATE BAYS.
INCIDENT SOUND
REFLECTED SOUND
REFLECTED SOUND
PLASTER ON METAL LATHING
SCALE 12 6 0 6 12 18 24 INCHES.
WOOD PANELLING
PILASTER
14" BRICK WALL
CORK FINISH ON MASTIC
BOARDED FLOOR
CANE FIBRE BOARD
CONCRETE FLOOR
STRAW PARTITION SLAB AS PERMANENT SHUTTERING
NOTE.
INTERIOR SURFACE INSULATED FROM WALLS & FLOORS. WALLS & FLOORS INSULATED FROM MAIN FRAMING NO CONTACT BETWEEN LINING & FRAMING.
ACOUSTICAL CONSTRUCTION. PLAN No 1406.
INSULATED MUSIC ROOM. SEATING 200.
C.W.GLOVER & PARTNERS.
CONSULTING ENGRS & ARCHTS
MADE CWG PLAN No DATE
TRACED HTS 1406 CHECKED A.H
ABBEY HOUSE SW1

FIG. 12

ILLUSTRATIONS

PLATES

Birmingham Hospital Centre.

The design submitted by Messrs. William A. Pite, Son and Fairweather, FF.R.I.B.A., of Westminster, was one of the fourth premiated sets. The main entrance to the hospital is at the southern end of the site at point "A," which was suggested in the conditions. Entering at this point, at the circus adjoining the railway bridge, a fine motif was obtained, affording a noble avenue approach to the great court, the University Faculty being on the west and the external patients to the east. This produced a satisfactory solution of the many and varied problems indicated by the difficult characteristics of the site and the variety of stated conditions. The main administration, flanked by the great ward blocks, shows the lay-out with centralised services; clear, direct lines of communication are secured throughout. The interdependent linking up of the hospital with the faculty building has afforded a pleasing and satisfactory solution.

Prince Edward Theatre, W.

This new theatre, which has been erected at the corner of Old Compton-street and Greek-street, Soho, accommodates approximately 1,650 people, divided as follows:—Stalls and pit stalls, 850; dress circle, 322; upper circle, 396; boxes, 82. The upper circle is divided into two sections at different levels with separate approach, and the back portion of this circle, therefore, takes the place of the old gallery, although no comparison can be made with regard to comfort, as it is furnished and fitted in the style of the circle, stalls and dress circle. A novel feature is the planning of the boxes. In most theatres these are placed in positions where it is difficult to obtain a view of the stage. In this case, the greater number of the boxes have been designed at the back of the dress circle with a view equal to any seat in the house. The Royal box is practically on a level with Greek-street, and can be entered direct from the street through a foyer. There are also lavatories, retiring room, etc., adjoining box for the use of the Royal party.

The stage has been built on the latest principles, and as regards size is second only to the stages of Drury-lane and Covent-garden. A special feature is the electrical switchboard, which is constructed so as to allow all the lighting for eight scenes to be pre-set, requiring only the movement of one switch to light each entire scene. In order that the theatre may also be used for trade shows in connection with the "talkies" and silent pictures, a complete operator's box has been constructed and equipped. There are nearly forty large dressing-rooms, all the "star" artistes having their own sitting-rooms. Two large lifts are installed adjacent to the stage to take artistes to the various levels. The stage exit and entrance is in Frith-street.

The interior of the theatre is of a modern character; the general colour scheme being a warm purple tint best described as "fuchsia" and gold. The wall treatment is of a futuristic design, with delicate colouring supplied by concealed lighting. The proscenium arch is formed with a series of Lalique glass coves, tinted in amber, and the lights of the balcony front are also partly constructed in glass.

The exterior, in order to be in keeping with its surroundings, is constructed in brick instead of the usual Portland stone. A small mauve brick has been used, with raked joints, which give a very pleasing shadow effect enlivened by the introduction of bright colour in the windows, shutters and the roof. Flood lighting is provided from canopy and cornices at night. With regard to the ventilating plant, the whole of the air supply is automatically washed and heated and eventually distributed throughout the theatre independently of any hand control. The conditions of temperature and humidity in all parts of the theatre are automatically adjusted. The conditioned air enters at roof level, penetrates into every corner of the house before it is withdrawn under the seats, and the entire theatre receives a complete change of air every five minutes.

[The contractors associated with the work are given on page 688.]

Mr. E. A. Stone, F.S.I., is the architect.

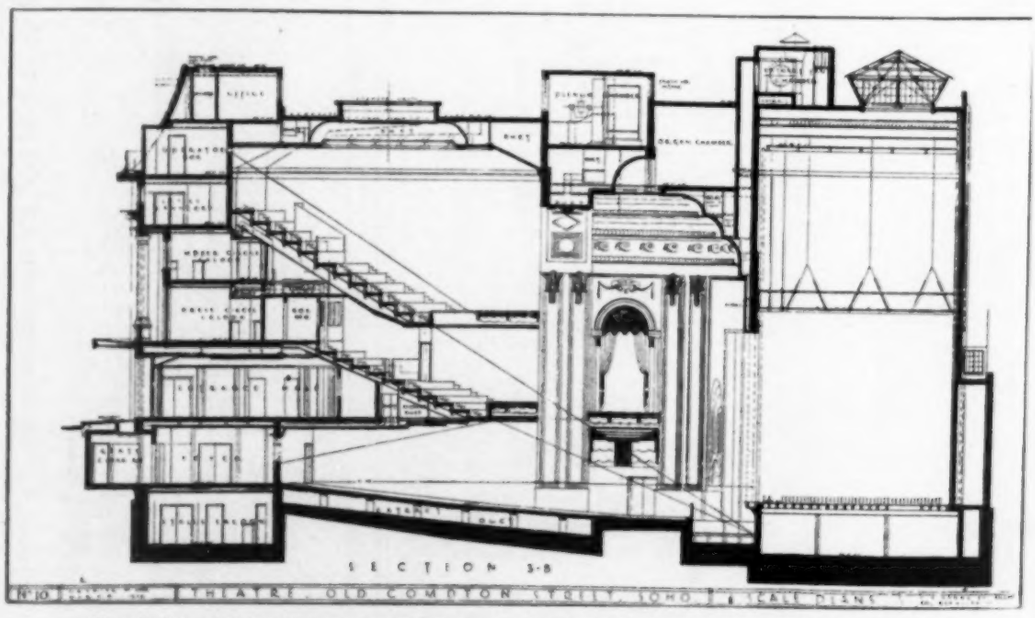
"Thames House," Westminster.

"Thames House," which is being built by Anglo-Properties, Ltd., to the designs of Sir Frank Baines, will occupy an extensive site just beyond the Middlesex end of the new Lambeth Bridge. The erection of Thames House and Imperial Chemical House together mark one of the most important site developments carried out in London during recent times; these buildings in themselves create a fine new river frontage at Millbank and at the same time set an architectural and commercial standard for the whole district, a considerable part of which is likely to be rebuilt within the next few years. "Thames House" will consist of two twin blocks—separated by a public thoroughfare—Page-street—but linked up by means of a high arch on the river frontage. The architectural note struck in the building is that of a free, modern rendering of the best period of English Renaissance, giving a simple fenestration and permitting of good lighting conditions throughout. The building is of steel frame construction faced with Portland stone carried right up to the eaves of the steeply pitched roof, which will be covered with slabs of creamy faience. The Portland stone will not run down to pavement level, but will be replaced to above shoulder height by highly polished granite.

A notable feature of the building is that it is built inside what may be termed a huge tank or container, securely shut off from the action of tidal water, the effects of subterranean drainage or the shifting of the surrounding soil. The erection of this container was decided upon as the only means of protecting the site against tidal water, it having been found during the course of excavation that pumping was not sufficient to keep the area free from water. This excavated area has been surrounded with the walls of the container, which consist of (*a*) an outer layer of steel piling, (*b*) a brick wall 9 in. thick, (*c*) a coat of asphalt, and (*d*) a concrete wall, 17 ft. thick at the base and narrowing to 5 ft. at the top. The whole site within these retaining walls is covered with a thick bed of waterproofed concrete which, together with the walls themselves, forms an enormous tank, entirely impervious to water.

Temporary electric lifts and an easy-gradient staircase have been erected, so that the movement of material and staff may be expedited. It is claimed that "Thames House" holds the world's record for rapid steel construction, no less than 1,080 tons of steel having been fixed in position in the course of a single week. Special attention is being paid to the lighting of the building. Each block will have a large central lighting court nearly 40 ft. wide and over 100 ft. long. Ultra-violet rays glass will be used in the windows throughout the building.

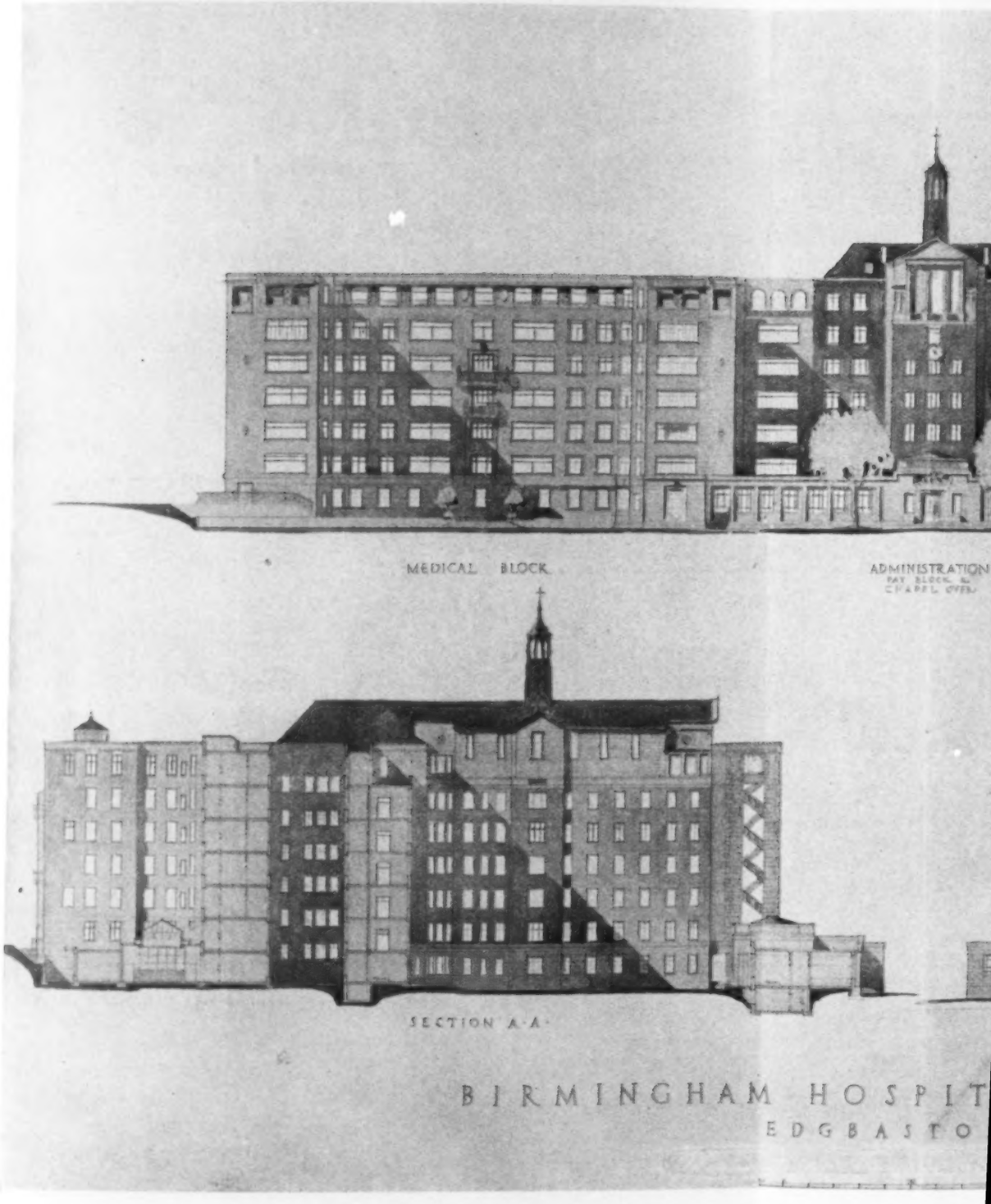
The contractors are Messrs. John Mowlem and Co., Ltd., the steelwork contractors, Messrs. Dorman, Long and Co., Ltd., and the consulting engineer, Mr. Harley H. Dalrymple-Hay, M.Inst.C.E., with whom are associated Messrs. Sherman and Travers Morgan.



The Prince Edward Theatre, Old Compton Street, W. Mr. E. A. Stone, F.S.I., Architect.

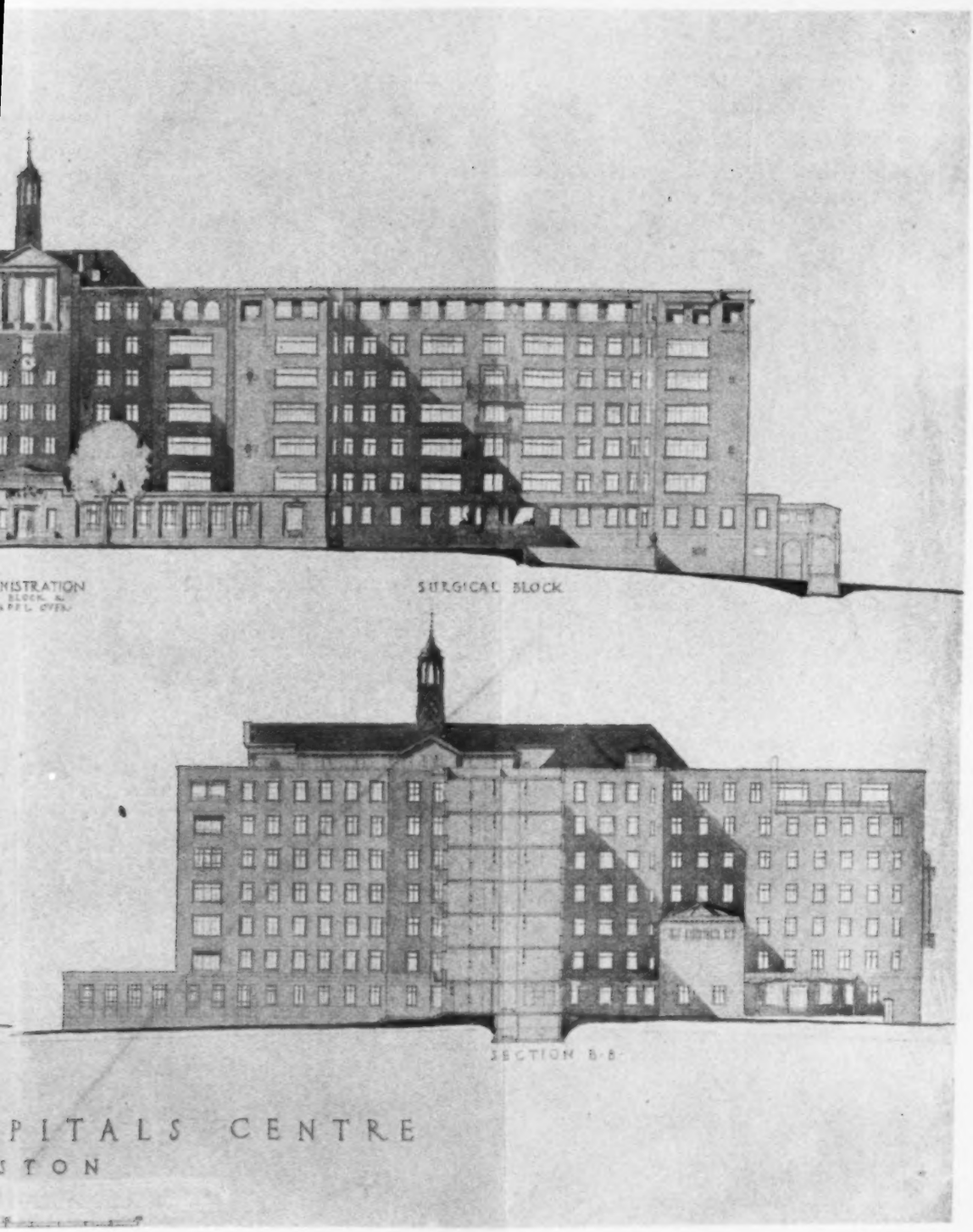
The Prince Edward Theatre, Old Compton Street, W.

MR. E. A. STONE, F.S.I., Architect.



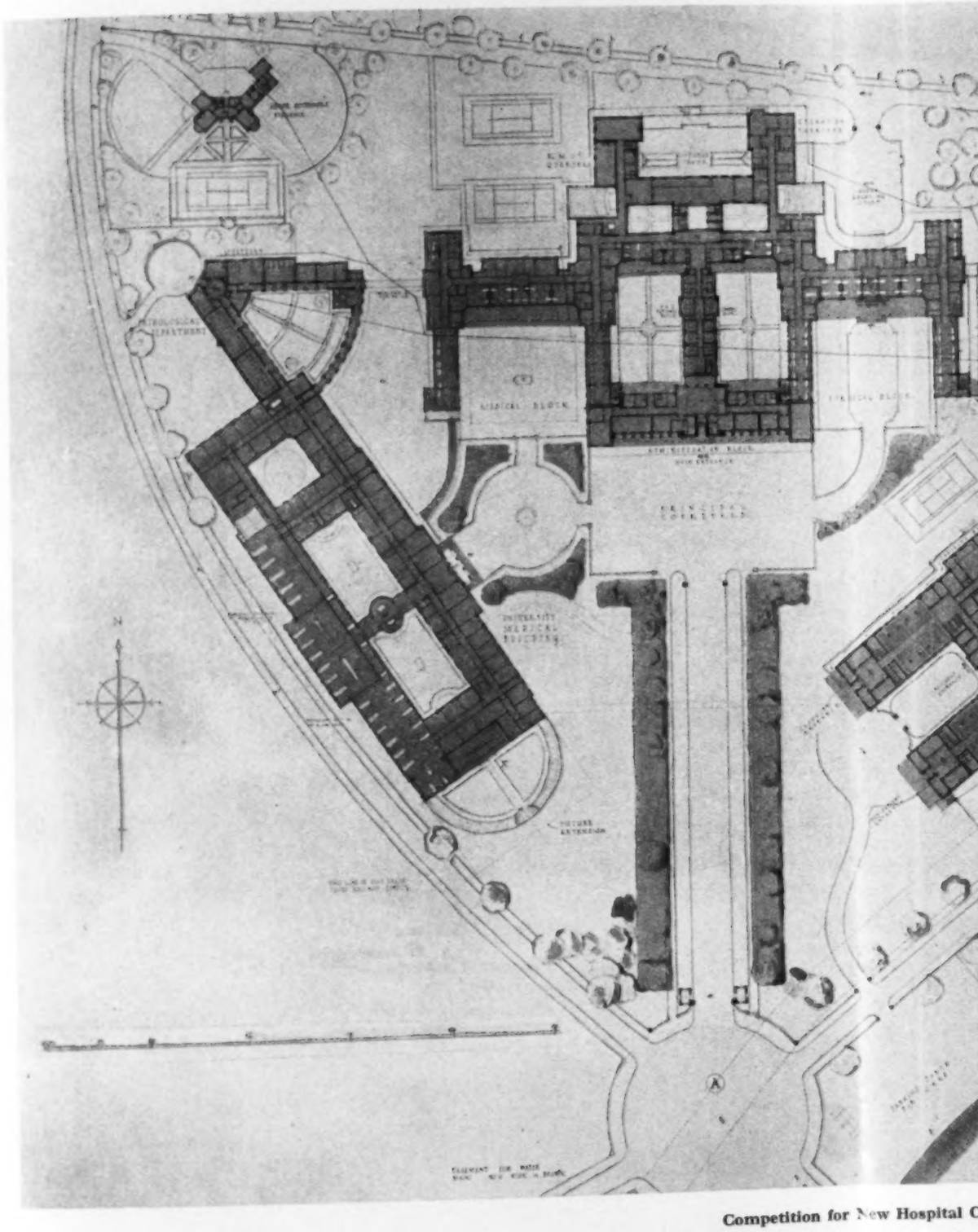
Competition for New Hospital Ce

Design submitted by Messrs. William A. Pite, S



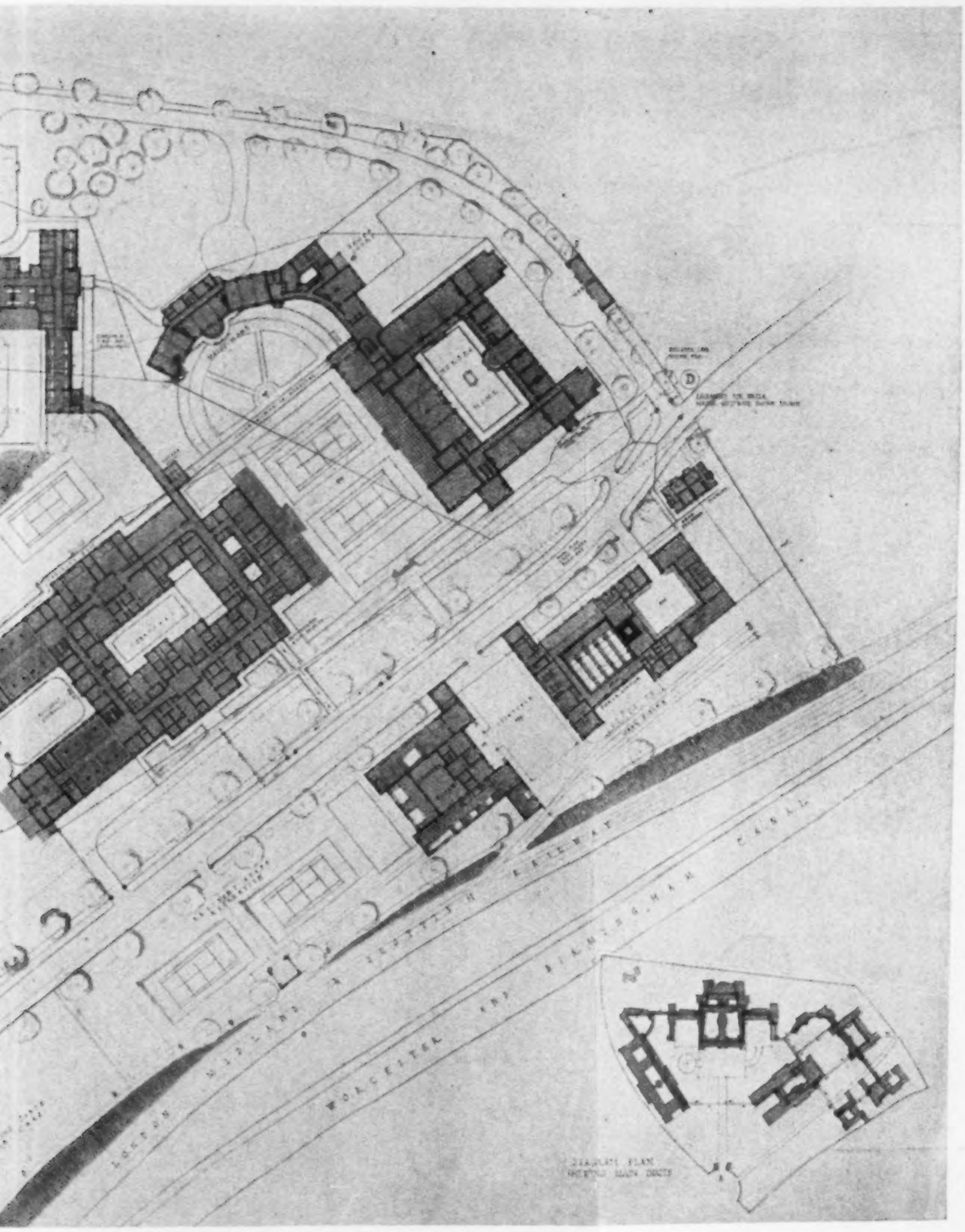
ospital Centre, Birmingham.

A. Pite, Son & Fairweather, FF.R.I.B.A.



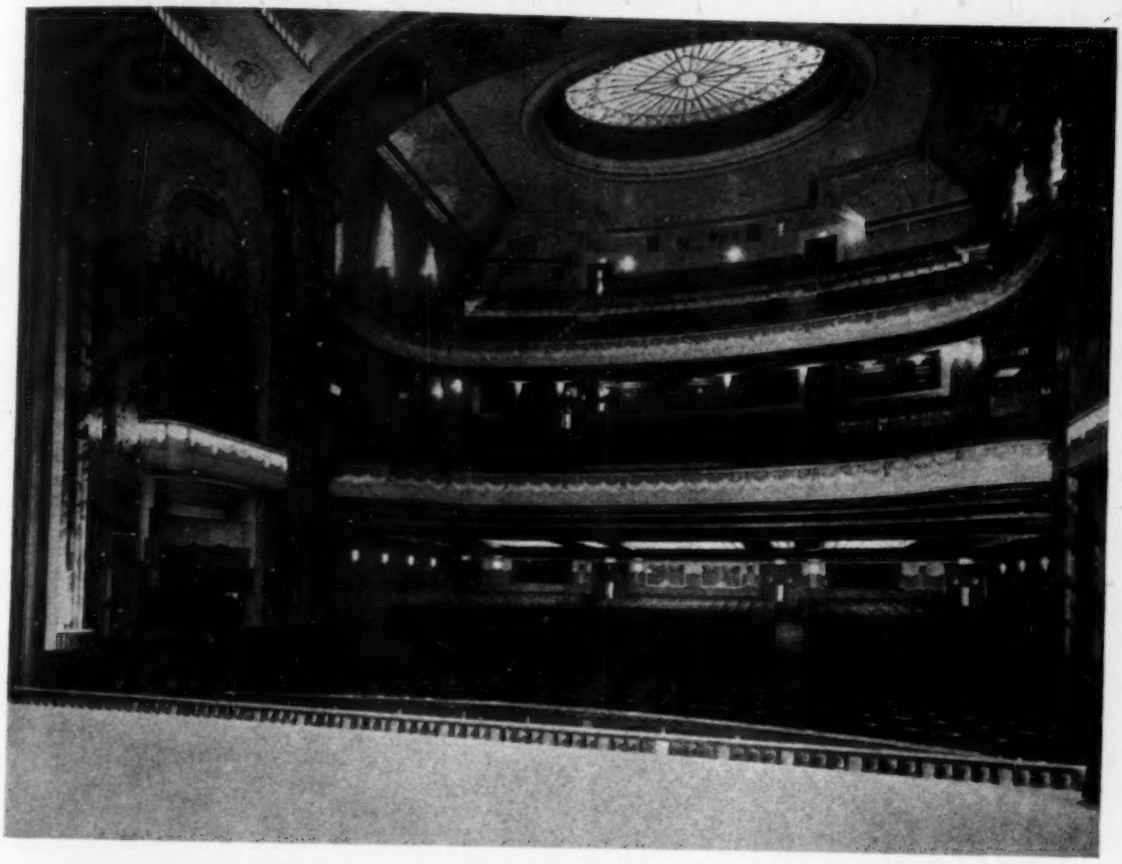
Competition for New Hospital C

Design submitted by Messrs. William A. Pite,

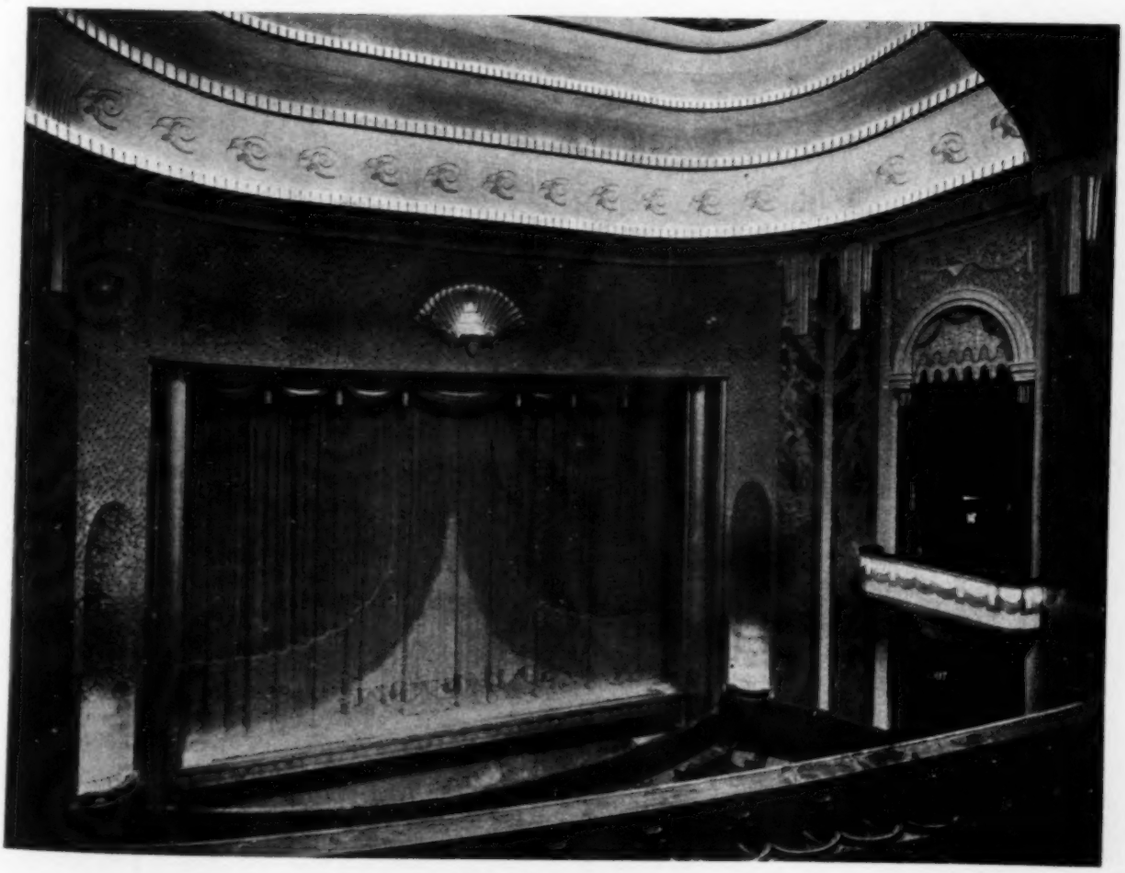


ospital Centre, Birmingham.

A. Pite, Son & Fairweather, FF.R.I.B.A.



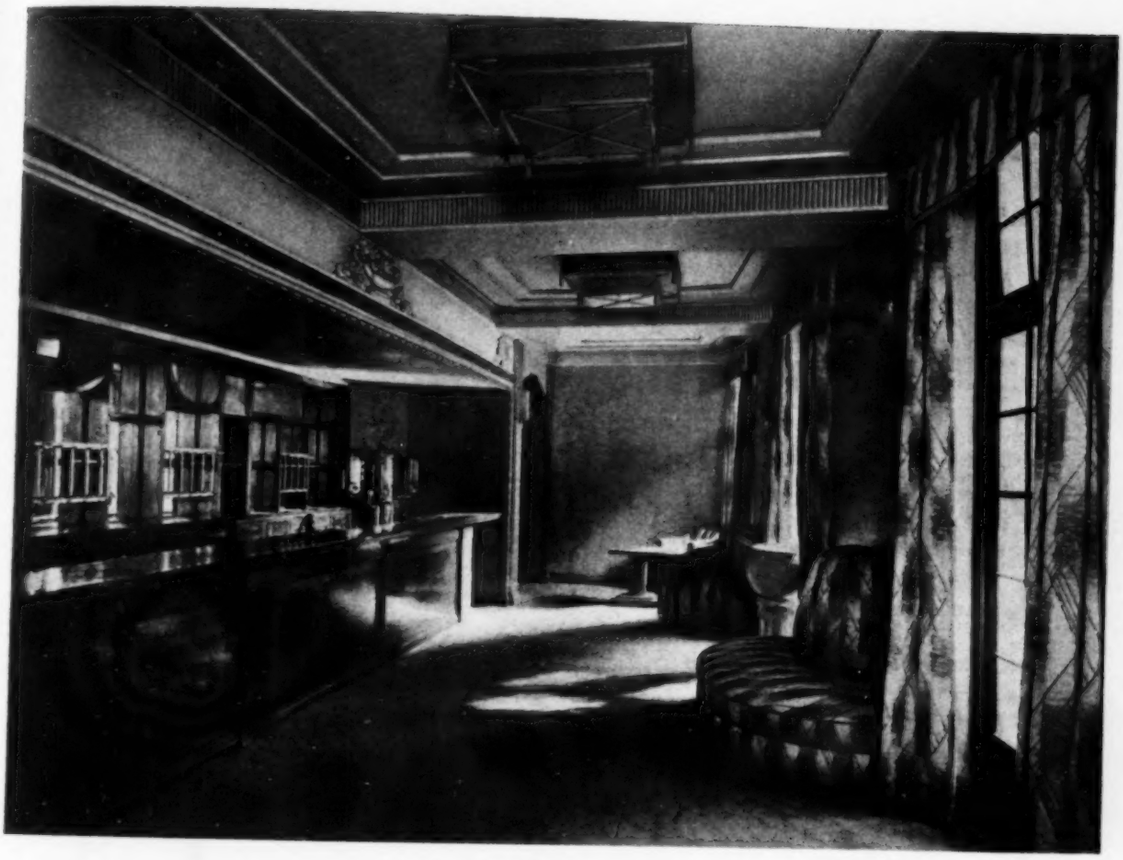
AUDITORIUM FROM STAGE.



PROSCENIUM FROM DRESS CIRCLE.

The Prince Edward Theatre, Old Compton Street, W.

MR. E. A. STONE, F.S.I., Architect.

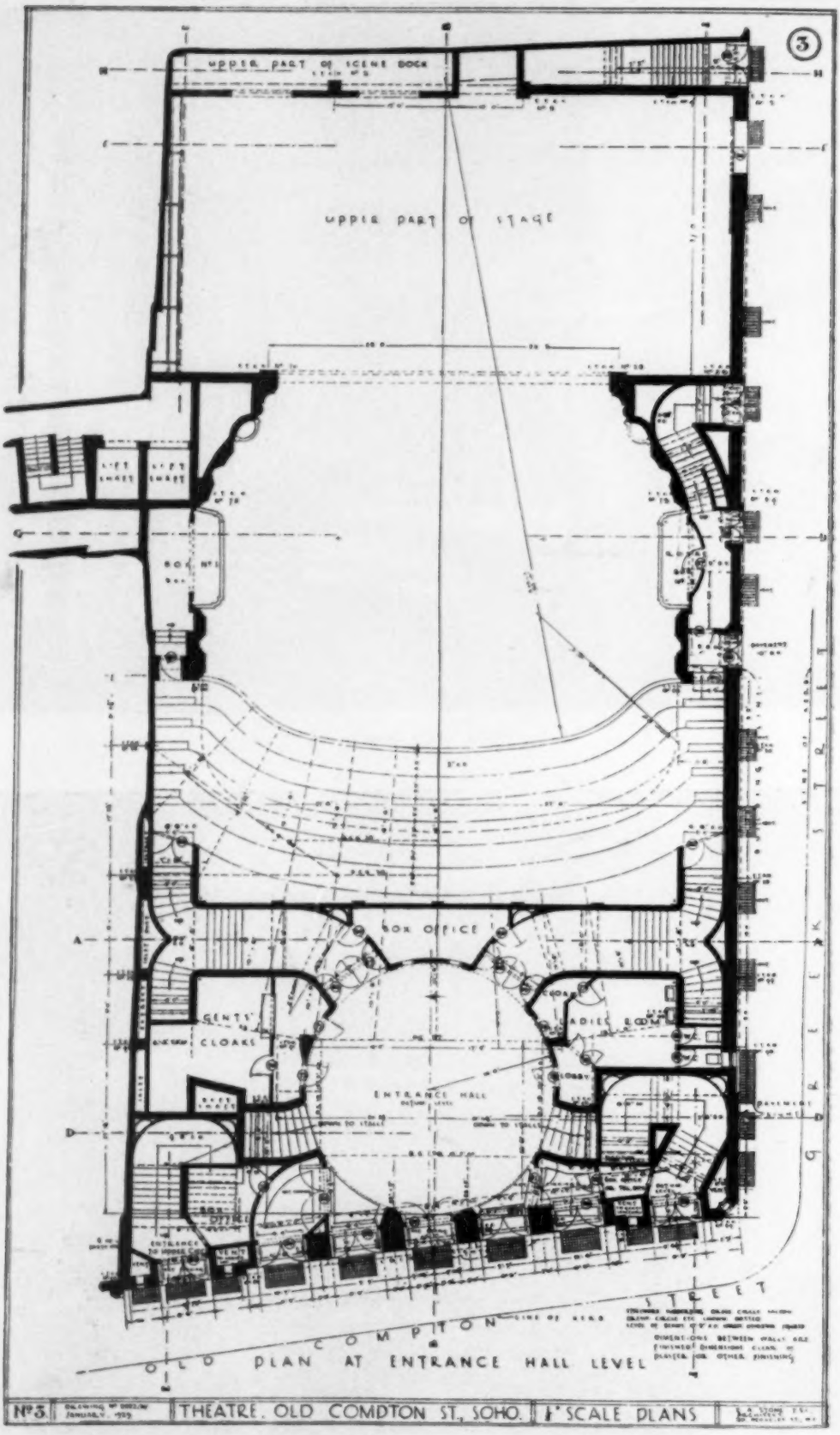


Dress Circle Saloon.

Entrance Hall.

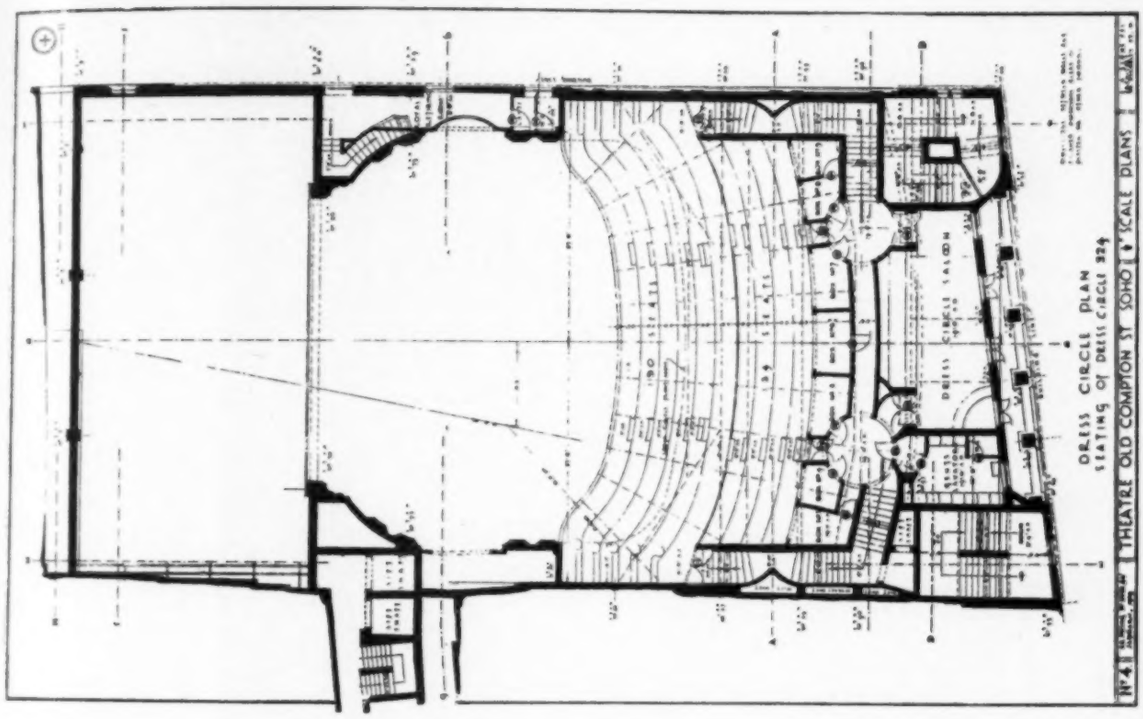
The Prince Edward Theatre, Old Compton Street, W.

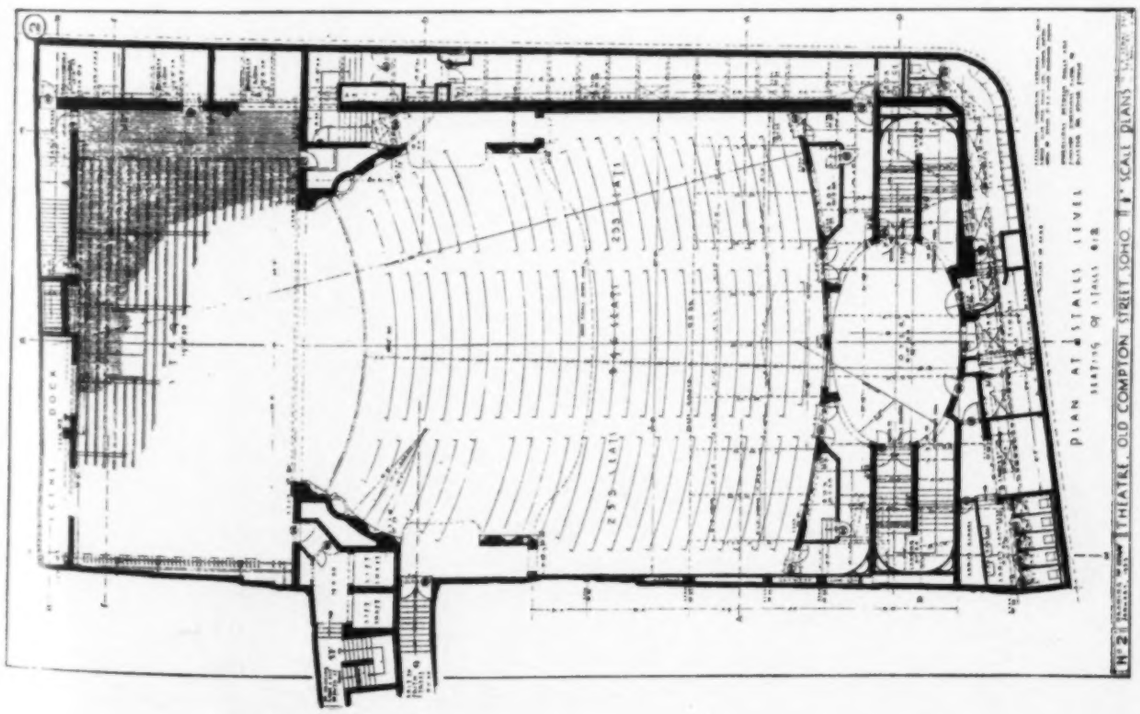
Mr. E. A. Stone, F.S.I., Architect.



The Prince Edward Theatre, Old Compton Street, W.

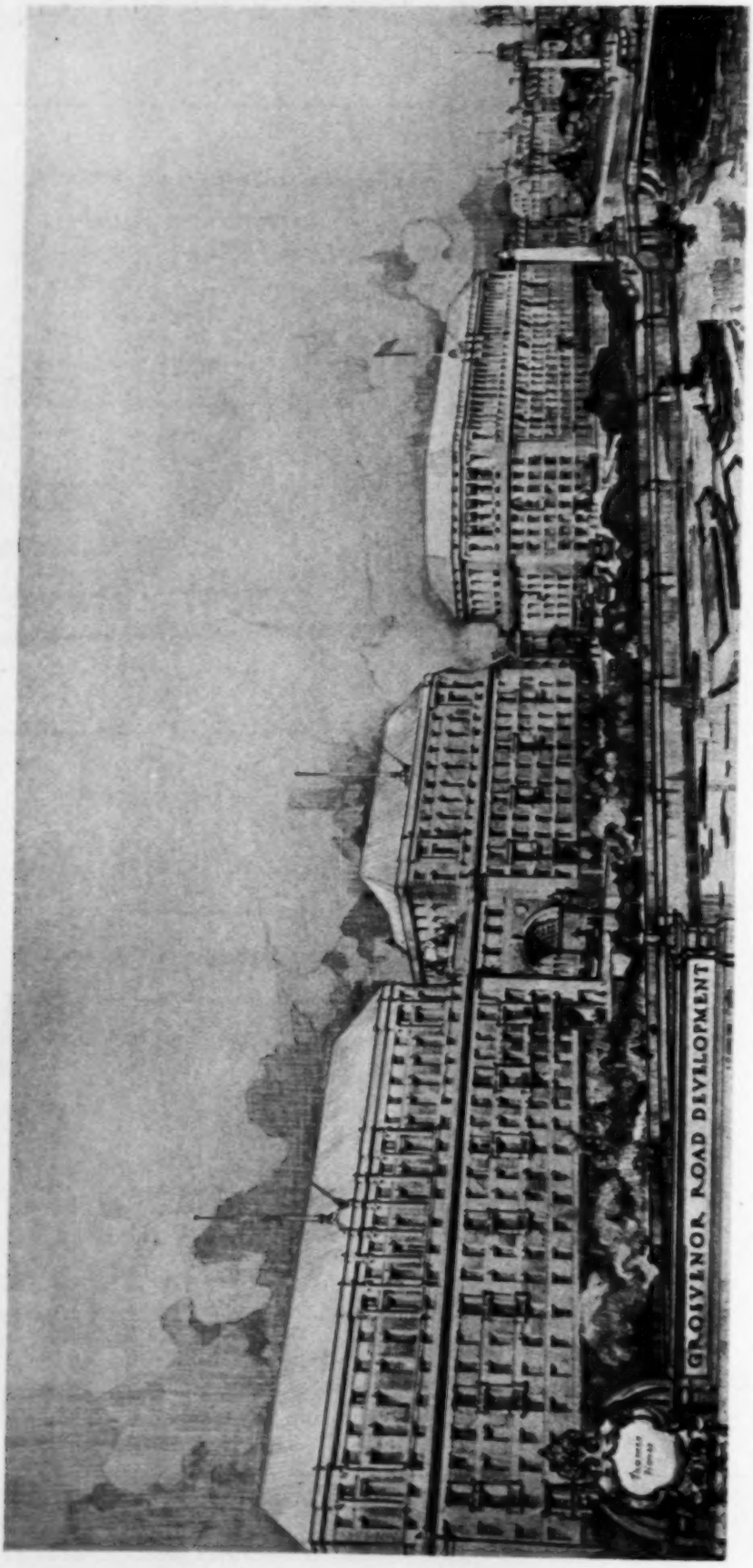
Mr. E. A. Stone, F.S.I., Architect.



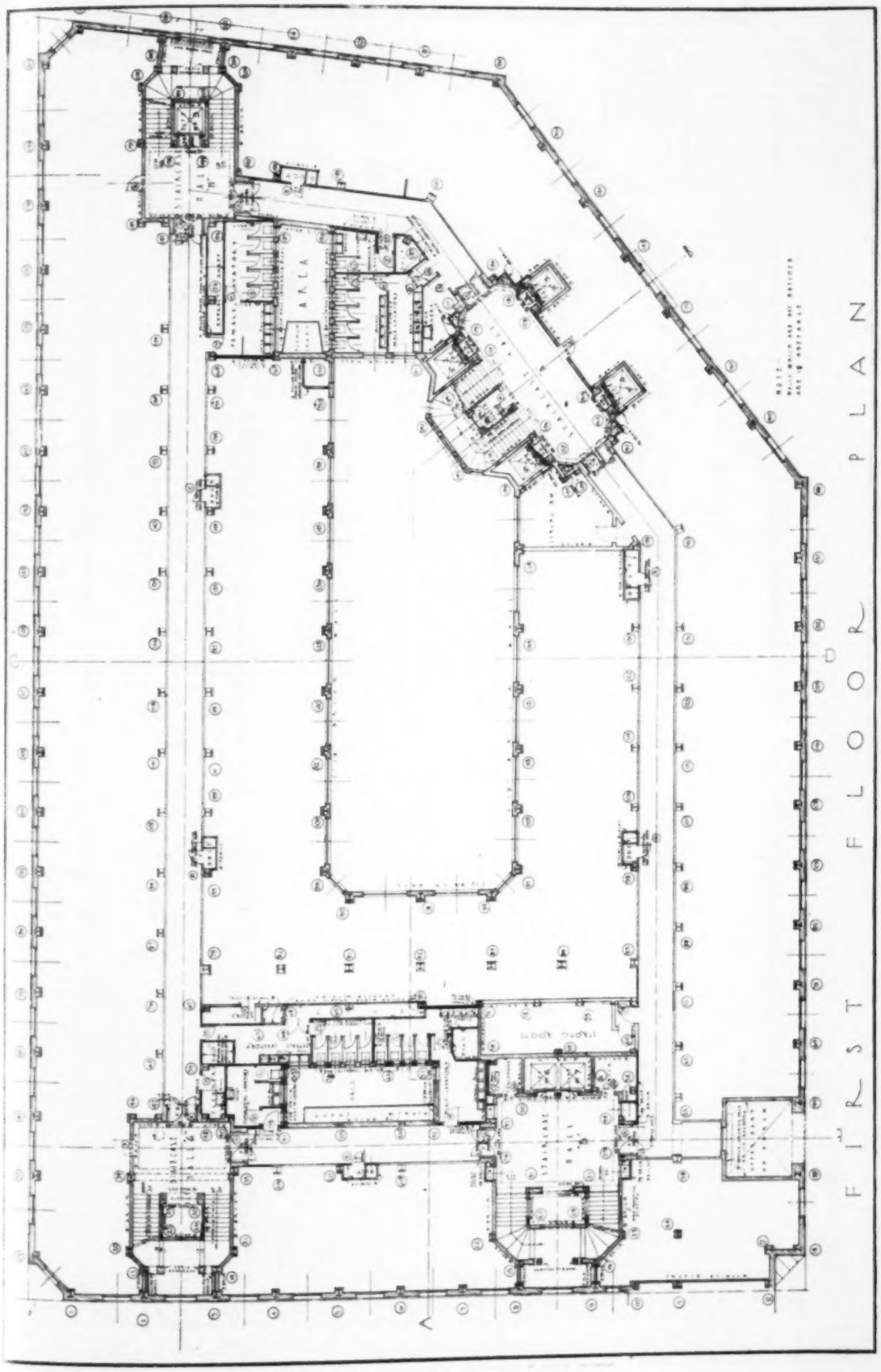


The Prince Edward Theatre, Old Compton Stree

Mr. E. A. Stone, F.S.I., Architect.

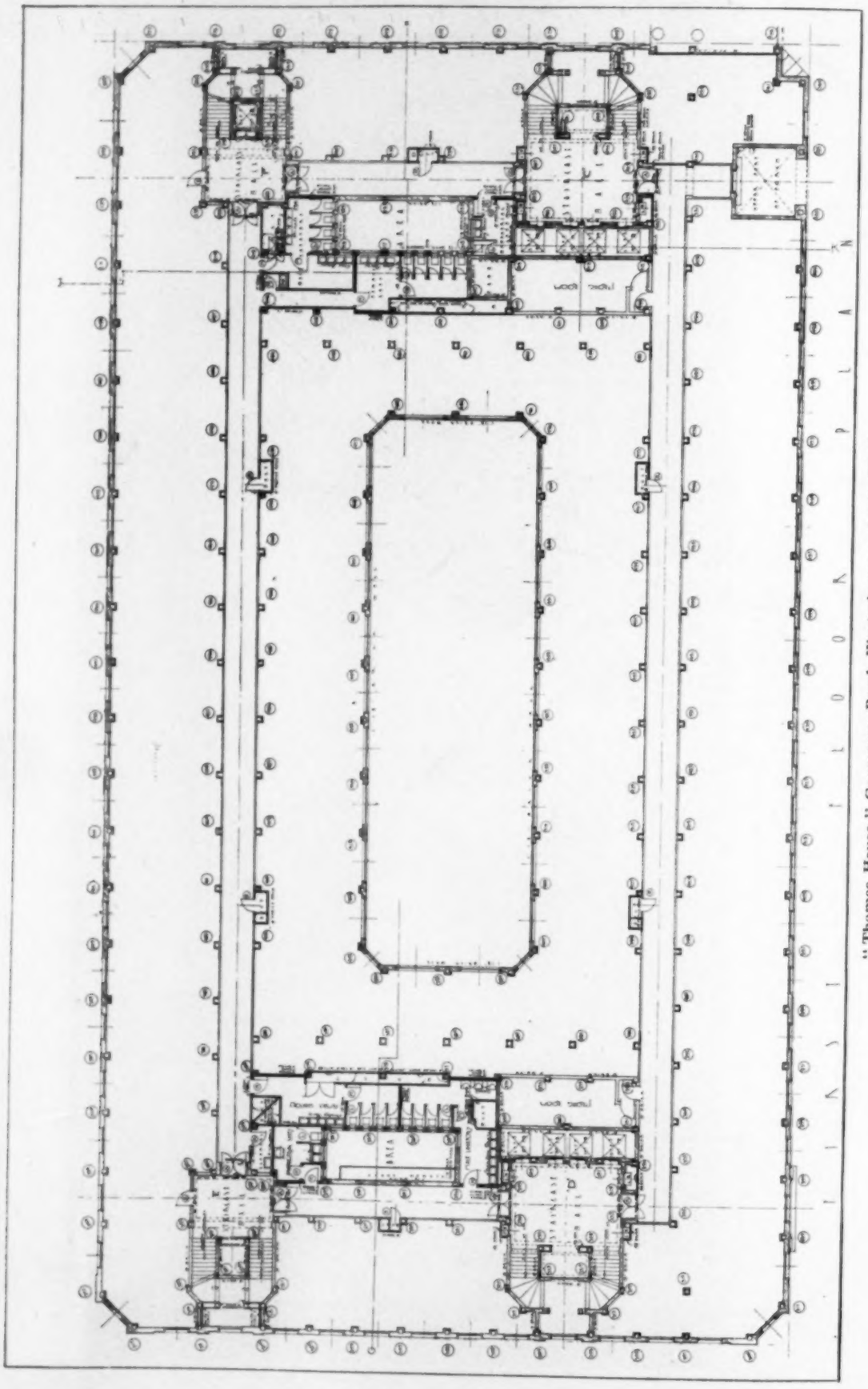


"Thames House," Grosvenor Road, Westminster.
Sir Frank Baines, F.R.I.B.A., Architect.



"Thames House," Grosvenor Road, Westminster: North Block.

SIR FRANK BAINES, F.R.I.B.A., Architect.



"Thames House," Grosvenor Road, Westminster: South Block.

Sir Frank Baines, F.R.I.B.A., Architect.

OLD SAINT PAUL'S

By W. R. LETHABY.

AUTHORITIES.

More than thirty years ago I became possessed of a copy of Dugdale's volume on Old St. Paul's, containing Hollar's illustrations (1658). This record of the great monument, while it still existed, is necessarily the chief source of all we may now know about it. With this must be associated Stow's earlier account, and other descriptions of the church. Among Wren's drawings preserved at All Souls' College, Oxford, are some which represent parts of the old church geometrically. Two of these were published by the London Topographical Society in 1908. On one of these, signed C. Wren, 1666, three bays of the eastern limb of the old church are carefully shown, also a bay of the nave as proposed to be altered by him. Another of the drawings (now, I believe, published by the Wren Society) is a transverse section of the nave, showing the scheme for recasing the old work while retaining the main forms and dimensions. Wren wrote of this proposal: "As the outside of the Church was new flagged with stone of larger size than before [by Inigo Jones] so ought the inside also after a good Roman manner." The second of the drawings published in 1908 is a ground plan. On the mount to which it is attached is written "Ground Plan of St. Paul's before Inigo Jones's Portico, on vellum." This plan differs from Hollar's in several respects, and in some is obviously fuller and more accurate. The Chapter House and Cloister, for example, are much better shown. Penrose said of it: "It gives a very incorrect representation of the old Choir, but an extremely correct one of the Cloister and Chapter House."

The west front with its flanking towers is shown in a way that looks accurate, so also do the turret stairs. Two lesser nave doors in the north and south walls are not exactly opposite one another as in Hollar's plan. The Bishop's palace is against the north-west corner of the church. Pardon Churchyard and Paul's Cross also appear. This is a valuable document which may with probability be dated 1600-30.

A volume issued by the Camden Society in 1880, entitled *Documents Illustrating the History of St. Paul's Cathedral*," by Dr. W. Sparrow Simpson, contains much valuable information: so do three other smaller volumes by the same author. These are: *Chapters in the History of Old St. Paul's* (1881); *Gleanings from Old St. Paul's* (1889); and *St. Paul's Cathedral and Old City Life* (1894). The Calendar of St. Paul's documents issued by the Historical Manuscripts Commission in 1883 is also important. Besides these, Malcolm's *Londinium Redivivum*, Dean Milman's *Annals of St. Paul's*, and Longman's volume on the old and modern cathedrals published in 1873 must be mentioned; the last-named contains engravings of drawings by Mr. E. B. Ferrey translating Hollar's views into very visionary and inexact plans and elevations. These are the main authorities available for the study of the great lost cathedral of London.

Again, during the last fifty or sixty years many actual remnants of the old church have been discovered. The chief of these are the foundations of the Chapter House and Cloister against the south side of the present building which are still exposed. In the triforium of the church is a collection of many mediæval fragments from which exact details may be obtained.

From all these authorities it would be possible to put together an account of the old Cathedral which would represent it very fully and yet be entirely trustworthy. The present notes I hope may be a contribution towards that desirable end. One great interest in archæological study is that it enables us to see what no longer exists.

SAXON CHURCH.

Foundation.

In 597 a mission, led by Augustine, sent from Rome by Bishop Gregory, landed in Kent. They were received in a friendly way by King Ethelbert, who soon accepted baptism. Augustine went back to Gaul to be consecrated bishop of the newly won province of the Church. In 601 a second party of priests, among which was Mellitus, the future Bishop of London, arrived from Rome bearing an archbishop's *pallium* for Augustine and instructions that he should establish his archbishopric at London. It seemed wiser to Augustine, however, that the chief see should be the capital of Ethelbert's kingdom, and some time before his death in 604 he consecrated Mellitus bishop of the East Saxons. "King Saebert of Essex, the nephew of Æthelbert, was the only one of that monarch's vassals who followed the example of his suzerain by giving a prompt adhesion to the new religion. He was a zealous convert and joined with his uncle in the foundation of St. Paul's, London, as the Cathedral of Bishop Mellitus." (Oman, *England before the Norman Conquest.*)

"Mellitus was one of the second company of missioners whom St. Gregory sent to join St. Gregory and St. Augustine. The Pope Abbot and is supposed to have been of the same Monastery of St. Andrew as were both St Gregory and St. Augustine. The Pope sent by him a quantity of Sacred Relics, vessels for the altar, vestments, and church furniture. He was also the bearer of the pallium for the first Metropolitan. . . . St. Augustine, shortly before his death, consecrated Mellitus Bishop of the East Saxons, and placed his See in the City of London and in the Church of St. Paul which King Ethelbert built for his cathedral." (Stanton, *Menology of England and Wales*, 1892.)

"Æthelbert King of Kent, under whom Sebert reigned in this tract, as it were, his Vassal and by courtesy, founded here a Church and consecrated it to St. Paul, 610; which being eftsoons re-edified and repaired became most stately and magnificent, endowed also with fair Livings and Revenues, wherewith are maintained a Bishop, a Dean, and Chaunter, a Chancellor, five Archdeacons, thirty Prebendaries and divers others" (Stow). All through the Middle Ages Ethelbert was remembered as the founder of the Cathedral.

In 1598 the traveller Paul Hentzner notes that the Cathedral of St. Paul was founded by Ethelbert King of the Saxons.

A statue of him with figures of other benefactors was placed in the choir screen about 1630 by Sir Paul Pindar—doubtless in reinstatement of what had been there before. Mellitus died Archbishop of Canterbury in 624

Site.

Roman objects and a great quantity of bones of animals having been found on the site, a theory grew up that a temple had formerly occupied it. Stow wrote: "Some have noted that in digging the foundation of the New Work, namely of a chapel on the south side of Paul's Church, there were found more than a hundred scalps of oxen or kine in the year one thousand three hundred and sixteen, which thing (say they) confirmed greatly the opinion of those which have reported of old time there had been a Temple of Jupiter, and there was daily sacrifice of beasts. Othersome both wise and learned have thought the Bucks head borne before the procession of Paul's on St. Paul's day, to signify the like."

The last allusion may have been to Camden. Camden says: "That there stood of old time a Temple of Diana in this place some have conjectured, and arguments there are to make this their conjecture good. Certain old houses adjoining are in the ancient records of the Church called Diana's Chamber: and in the churchyard, while Edward the First reigned, an incredible number of Oxheads were digged up . . . and the learned know that *Tauropolia* were celebrated in honour of Diana. I myself, when I was boy, have seen a stag's head sticking upon a spear-top (a ceremony suiting well with the sacrifices of Diana) carried round about within the very Church in solemn pomp and procession, and with a great noise of Horn-blowers. And that Stag or Hart which they of the house of Bawde in Essex did present for certain lands there held, as I have heard say, the Priests of this Church arrayed in their sacred vestments, and wearing Garlands of flowers upon their heads, were wont to receive at the steps of the Quire."

In later years other things have been found which seemed confirmatory, and Longman, in his history of the Church, fully accepted the view. "A temple, built by the Romans, and dedicated to Diana, once existed on the spot where a Christian Cathedral has now stood for twelve centuries." In the Hall of the Goldsmith's Company not far away from the church is an Altar of Diana which was found on or near the site of the Hall. Notwithstanding all these facts and conjectures, reconsideration of the evidence shows that the existence of a temple in this place is very improbable. Stow, as we have seen, thought the presumed temple would have been dedicated to Jupiter, and it will be shown later that the custom of offering stags or venison to the Church was similar to a custom at Westminster Abbey instituted by Henry III. The house called Camera Diana was situated at some distance from the Cathedral on the south side in the parish of St. Benedict towards Paul's Wharf. It was called Rosamund as well as Diana, and story associated it with fair Rosamund (Simpson's *Chapters*, p. 33 and 70). In 1300 the archdeacon of Middlesex had a house with a chapel and "a chamber called Rosamunde" (*Calendar*, p. 49).

In Gibson's edition of Camden (1695) a note reads: "As for the tenements called Camera Dianæ, they stood not so near the church as some would have us think, but on Paul's Wharf-hill, near Doctor's Commons, and took their denomination from a spacious building full of intricate turnings wherein Henry II (as he did at Woodstock) kept his heart's delight, whom he called fair Rosamund and here Diana. Of which winding vault there remained some parts in Mr. Stow's time."

A legend that Westminster Abbey was founded on the site of a Temple of Apollo goes back to the twelfth century. Excavation has shown that some Roman building, a villa or hostel, had in fact existed on the ground. Probably these foundations suggested the story, which in turn influenced the theory regarding Diana and St. Paul's.

Wren, after carefully considering the theory of the existence of a Roman temple on the site of St. Paul's, pronounced against it thus: "I must assert that, having changed all the foundations of old St. Paul's and upon that occasion rummaged all the ground thereabouts, and being very desirous to find some footsteps of such a temple, I could not discover any, and therefore can give no more credit to Diana than to Apollo" (*Parentalia*, p. 269).

The excavations, indeed, showed that the ground had been occupied in Roman days, but by pottery and glass works. There also seem to have been several rubbish pits of the same era and some burials. The skulls of oxen which were found near by in the Middle Ages, and explained as evidence of sacrifice, were more probably outcast offal. The character of the site is further evidence against the existence of a temple there.

The manuscript notes of John Convers, "apothecary at the White Lion, Fleet-street," preserved in the British Museum, contain a record of discoveries during the

excavation of the site in the years 1674-9. Mentioning St. Faith's Chapel under old St. Paul's in 1677, he says that his father and mother were married there forty-five years since. On the St. Paul's site a number of "rubbish pits" were found, and also pottery and glass kilns and a large quantity of pottery with some glass. "And amongst ye heap or mixture of rubbish, hart's horn sawed into pieces, old heifer's horns and abundance of boar's tusks—some in their jaw bones which shows that they did often hunt ye wild boars. . . ." Great numbers of bone pins were found buried together with boars' teeth, oyster and other shells, Roman coins, beads of greenish blue like enamel, and the fibulas they used to fasten their garments, and broken earthenware with inscriptions, and glass in gravel pits near 30 feet deep, opposite St. Paul's school, under graves of Normans, Saxons, and Danes. "All the black earth consisting of three stories of graves that had been raised in tract of time 15 feet deep at least one above another. There in the yellow ground so deep these Roman trinkets with the bones of stags, deer, oxen, cocks, etc., were found." Again, he says, "in 1677, on digging the foundation of the north-east cross part of St. Paul's among gravel pits and loam pits where the ground had been raised three or four times is so many eight-feet stories or depths of coffins. The lowest coffins made of chalk and supposed to be before or about Domitians' time." In a memorandum dated August 20, 1675, he noted the finds in the new foundation "under part of the place where St. Paul's cross stood. They were forced to dig 25 or 30 feet deep for sound ground. It doth appear that the ground hath been raised 15 or 16 feet since they used to bury in the churchyard. About 12 feet deep there was a layer of white matter which might be chalk and the hewings of stone when the church was built." Below this, parallel to the east end of the church, were flint pavements of houses. As the earth ceased to be black and came to be more of the yellow sand colour there were found potsherds as red and firm as sealing wax, also coins and some glass. Much pottery of a rougher kind was also discovered of which he made sketches.

Conyers also sketched some pottery kilns which were found. They were formed in the sandy loam without any other building "crusted hard by the heat burning the loam red like brick." One kiln was full of the commonest sort of lamps and urns.

He was told of other kilns which had funnels for smoke "and these might serve for glass furnaces." "Broken crucibles or tests for molting of glasses, together with boltered glasses such as are to be seen remaining at glass houses: amongst the broken glass were glasses spoilt in the making." The pottery, however, was much more plentiful, "for I think a hundred times more of pots was found to one of glass."

In Parentalia also we are told that Wren at the north-east corner "fell upon a pit where all the pot earth had been robbed by the potters of old time: here were discovered quantities of urns, broken vessels of pottery ware of divers sorts and shapes. How far the pit extended northwards there was no occasion to examine."

From all this it appears likely that what has been called "the Pauline hill" was the manufacturing end of the Roman city and it was probably more or less waste ground when the large area of the future churchyard was given to the Christian mission from Rome.

Erkenwald.

The fourth Bishop of London was Erkenwald, consecrated in 675, who had founded the monasteries of Chertsey and Barking. He became the special local patron saint of the Cathedral, and after the Norman Conquest his shrine was to it very much what the shrines of Edward the Confessor and St. Thomas à Becket were at Westminster and Canterbury. Nice stories are told about miracles wrought during his life. At Barking "thartyfycers" that builded the monastery found a beam too short for its place. Then Erkenwald and his sister the Abbess "toke the same beme betwene their handes and drew it out in such wyse that it had suffycyente lengthe." In the offices of the Cathedral he is called *Lux Londonia* Christ's golden lamp. In the special commemorations of his translation, November 14, it was told that once while preaching in the streets of London from a two-wheeled cart, one of the wheels fell off, but the vehicle continued to go along just as well. He died at Barking, "and when the hyghe channons of Saynt Powles at London" heard of his death they came for the body and there was a great strife, and they of London took up the body and bore it towards the city. "And as they went there fell a great tempest but still the tapers about the body burnt and a dry path was opened to the people. And so they came to Stratford and set down the bier in a fair mede full of flowers wherefor the people were full of joy and gladness. And they took up the body and bare it to Paul's where many fair miracles have been shown."

He was a special protector to the church against fire. Once on a time the church was burnt, but his shrine, which was then only of wood, was saved, even the cloth over it being uninjured (*The Golden Legend*).

"It is particularly recorded that the litter in which he was borne during his sickness was, even many years after his death, the channel of frequent cures of fevers and other maladies. The epitaph of the ancient shrine of St. Erkenwald stated that he was bishop during eleven years. The festival of his deposition [burial] was kept on the 30th April, and that of the solemn translation of his relics, which took place in the year 1148, was on the 14th November. When the shrine was plundered, at the time of the change of religion, the body of the saint is said to have been re-interred near the east end of the choir" (*Menology of England and Wales*).

It seems to me great pity that we have so completely forgotten Mellitus and "Erkenwald Light of London." We might at least name some streets or places after them so that it could be remembered that they were famous London bishops.

In the church at Barking is a fragment of a fine early cross-shaft of intricate plaited work. It came from the Abbey ruins and may be as early as the end of the seventh century. A copy of it might be put in St. Paul's Cathedral as a memorial to London's special saint. I would like to see some corner in the vast bare church devoted to gathering memorials of its history in the thousand years before the Great Fire. Hardly any city can so neglect its great men of the past, and we need something for thought in the grinding of modern life. The remote pomp of Paul's itself might be mitigated by a few simple inscribed slabs telling of Ethelbert and Sebert, Mellitus and Erkenwald.

Churchyard.

Two sculptured stones preserved in the British Museum and the Guildhall Museum are material memorials of the Saxon age of the Cathedral. The later is a small sculptured headstone found in the south churchyard some 20 feet below the surface. When found it was still in an upright position at the head of a grave. The bottom part originally in the ground which was irregular and untooled has been cut away. A drawing by Archer in the British Museum shows it as it was when found "on the site of Messrs. Cook's warehouse." The sculpture is a much knotted dragon and on the edge is an inscription in runes reading "Kina let this stone be set to Tuki."

This stone is of definitely Danish character. It may be compared with the tomb of Gorm in Jutland, illustrated in Du Chaillu's *Viking Age*, which is almost identical in character and must be of nearly the same date. This "Gorm the Old" was the last heathen King of Denmark. It has been suggested that Tuki was the same as Tokig, a minister of King Canute's ("Danish Sculptured Stones found in London," *Archæol. Jour.*, 1885).

The stone in the British Museum is imperfect and in two fragments, but enough exists to show that it is part of a grave slab which was carved in exactly the same style as the headstone, and it is agreed that the fragments were probably found with it (Fig. 1).

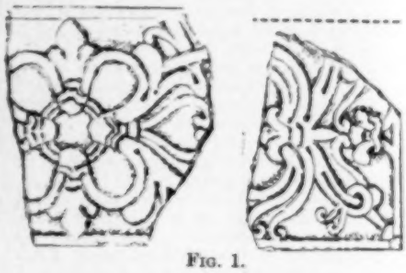


Fig. 1.

Fig. 2 is a rough restored sketch of this slab. It may, I think, be quite definitely assigned to the reign of King Canute. It is a pity that these remarkable stones should have drifted away from the Cathedral. Some day I hope it will be realised that St. Paul's is of ancient foundation and an effort be made to bring together some memorials of its past.

In the gallery of the present church is a stone among the collection of fragments which looks like a Saxon gravestone of the "hog-back" type.

The Church of St. Gregory, which was attached to the south side of the Norman cathedral and existed until the seventeenth century, already in the Saxon age, stood in the great churchyard of St. Paul's. The dedication, of course, is in the name of the Pope, who sent Augustine and Mellitus from Rome. About the year 920 the body of St. Edmund, the murdered King of the East Angles, was removed to London to escape the profanation of the still threatening Danes, and it remained there about three years before it was restored to Bury St. Edmunds. According to Herimann, the author of the account of the miracles of the saint, the relics were brought to "the Church of St. Gregory in the Atrium of St. Paul's." In an inventory of 1298 it is again called the Church of St. Gregory in *Atrio S. Pauli* (Simpson's *St. Paul's and City Life*). This designation thus seems to have been the full and proper one for the church, and it follows that the churchyard or a space at the west end of the Cathedral was called the Atrium; I am inclined to think that the latter hypothesis is

Fig. 2.

the more likely. An order of Henry III in 1244 directed that a large number of poor should be fed in *Atrio beati Pauli*.

The School of St. Paul's was probably established in Saxon days. Several masters of the schools are mentioned in the records. Mr. A. F. Leach, the authority on English schools, says: "There is no direct evidence of St. Paul's School before the Conquest, as there is in the case of Canterbury, York and Warwick: but it is so clearly no new thing when it appears in the earliest existing monuments of St. Paul's at the beginning of the twelfth century that it seems certain it was of ancient foundation."

The military standard of London, "the banner of St. Paul's," was probably inherited from the time before the Conquest: like dual government of the City by Bishop and Portreve. In the mediæval church, until the Great Fire, were the tombs of Sebba, a King

of the East Saxons in the seventh century, who became a priest of the Church, and of King Ethelred. These were fine marble chests, so much alike that they must have been made at one time, and this was probably the twelfth century. The Saxon Cathedral of London in its latest form must have been a considerable structure, for a national council was held there in the ninth year after the Conquest. About a dozen years later "the City of London underwent such damage by fire (which was in the time of the Conqueror's reign) so that the old fabric, being roofed with timber, was burnt" (Dugdale). We may safely imagine the sort of thing it would have been from the detailed accounts we possess of the Saxon cathedrals at Canterbury, Winchester and York. London would hardly have been inferior to the finest of these.

ARCHITECTS AND MANUFACTURERS' REPRESENTATIVES

SIR,—May I inform those professional correspondents who have written to you complaining that many representatives are lacking in a knowledge of the goods they offer, that from my experience the manufacturers do not take into consideration the technical qualifications of a traveller?

Being a chartered surveyor until recently in practice for over twenty years, and desiring to embrace the new and much-discussed profession of "salesmanship," I naturally turned to a certain branch of the building trade with every confidence; but, alas, I find that with few exceptions the principal qualification of a traveller is not his knowledge of the goods but whether he can introduce a so-called "connection." Other attributes appear to be of little interest to the manufacturers.

BM/ISAY.

SIR,—I should not have taken any part in this correspondence had it not been for an amusing experience I had with a manufacturer's representative recently. He proclaimed the high quality of his firm's goods with great assurance and affirmed their superiority over all others. I thought I knew his face, but not the firm he represented.

I told him I always dealt with Such-and-such a firm, who had always given the greatest satisfaction. He immediately proceeded to run down their goods. I asked him if he really knew their goods. He assured me he had travelled for them for years. "Yes," I replied, "and always previously assured me they were the best in the market. Excuse me, I am very busy; good-morning." I immediately tore up his card. What confidence can be placed in this type of representative?

It is a treat to meet a real specialist in copper, paint or bricks, especially if he is a University man, well read and cultured, but the touter who decries every other maker is a nuisance, and should be snubbed. It must be a rotten life, however, and we should not add to its burdens.

SEBASTIAN CABOT GWILT

SIR,—I have been very much interested in the correspondence on travellers and advertising generally, but I would like to ask the gentleman who suggests that forty-eight travellers, being given ten minutes each, could easily be seen in one day, how he can limit the traveller to ten minutes without being extremely rude to him. My experience is, if you treat a traveller civilly he wants to spend his whole day in your office.

As regards circulars, these I consider in principle excellent, except that it is usually the busy architect whose patronage is required, and most of these circulars are written at such length, with so much "padding and boost," that only an unemployed architect has time to read them through. If the advertising agent who prepares these documents must have scope for his literary gifts at the expense of the advertisers, that is their affair, but if they want business from busy architects, I suggest they enclose a supplement giving essential facts, free from verbose padding and, what is almost always omitted, some idea of cost.

I am always amazed at the lack of imagination generally in advertisements prepared for architects. There are, of course, exceptions, but it usually seems that some particularly offensive building is illustrated, because the advertiser's material has been used in it, and whilst, no doubt, good-looking buildings have also been built with such material or equipped with such goods, the effect on an architect is to connect the article offered with the nature of the building illustrated, and so his instinctive feeling is one of condemnation.

An attractive photograph or sketch of a well-designed building will always attract an architect's interest.

R. S. WILSHERE.
(Education Architect, Belfast.)

SIR,—Under this heading quite a number of letters have appeared in your issues, all of interest, as well as your "Leader." The one signed Robert Hening was nearest the cause of all the trouble, for, instead of being termed "representatives," "agents" would have been a more correct designation.

What is complained of by architects is also experienced in all branches of the building trade, viz., contractors, decorators, etc. Clients are daily flooded with circulars, and I have been in offices when such have been received, and seen them torn up and relegated to the waste-basket. In due course the traveller or agent calls, with a further supply, and he often has very little knowledge of the uses of the goods or materials he is endeavouring to sell.

Incompetency on the part of so-called travellers is largely due to modern methods of engagement, for anyone can be a traveller if he is willing to submit to the pernicious and unfair system now prevailing of the commission basis.

How often do advertisements appear from firms who have no connection on certain "ground" worded something like this: "One with a connection preferred, own car an advantage—commission only." This means that the unfortunate aspirant has to pay railway fares, hotel bills and incidental expenses, be prepared to wait over a month before receiving any pay, and then (but probably not to his surprise) to find the hard-earned commission sadly depleted by expenses incurred doing pioneer work for wealthy firms.

For over twenty years the so-called traveller has been exploited by British manufacturers; only a comparative few remain who can boast of a good berth, and of being safe in it from year to year. Every man should be worthy of his hire. A traveller in a good job endeavours to hold it, but a commission man, with few exceptions, does not value his job as much as the road sweeper does his.

The remedy, therefore, lies with the manufacturers, who should engage men experienced in their various trades, remunerate them to enable them to uphold the dignity of the position, or profession, and be honest and useful to architects and building traders generally, instead of being a nuisance.

KNIGHT OF THE ROAD.

Building Science Abstracts.

Vol. III (New Series), No. 2, of Building Science Abstracts, Nos. 242-457, for February, has now made its appearance. Published by the Department of Scientific and Industrial Research in conjunction with the Institute of Builders, the issue may be obtained, price 9d. net, from H.M. Stationery Offices, at Kingsway, W.C.2, or elsewhere.

BUILDING PRACTICE

BY W. T. CRESWELL, Barrister-at-Law, Hon. A.R.I.B.A., Associate (late Fellow) Surveyors' Institution, etc.

XII.—ARCHITECTS' OBSERVANCE OF TOWN PLANNING SCHEME.

IT has been stated previously in these articles that it is a well-established duty of the architect to make himself acquainted with and to comply with all Acts of Parliament, by-laws and regulations applying to the work he undertakes to design, specify and supervise. Failure on his part to do so is negligence.

In recent years the law relating to town planning has become one of the most important branches of his essential professional knowledge. Fortunately, the Town Planning Act, 1925, consolidates the law for England and Wales, and there is a separate Act applying to town planning in Scotland.

Under the Act for England and Wales the preparation of town planning schemes is authorised, but only in respect to land in course of development, or which is likely to be developed for building purposes. Buildings, however, which are essentially part of an otherwise undeveloped area may be included in schemes for those areas; also special schemes may be prepared with the object of preserving the existing character and features of any structures or spaces of special architectural, historic or artistic interest.

In the ordinary course, it must be remembered that town planning schemes are concerned with the development of land, not with details of construction. For instance, they deal principally with the lay-out of land, the density of buildings, the widths of streets and setting back of houses.

Once a town planning scheme is approved and in force, the whole of the building, or other work, in the area covered by the scheme, must comply with the requirements of the scheme. To this end, where any such work contravenes the scheme, the authority promoting the scheme can pull it down or alter or remove it in compliance with the scheme, and this at the cost of the individual in default. Usually the scheme provides for the imposition of fines for any infringement of its plans.

It follows that an architect should ascertain whether there is a town planning scheme in course of preparation in any district in which his services are required, or whether there is one already in force. Whilst a scheme is only *in contemplation* by the authority, he is not precluded from carrying out building works in accordance merely with the by-laws and statutory provisions in force in that district; but once the authority concerned has definitely decided to prepare a scheme, then any attempt to do work (other than that already required to finish a building in course of erection, or to complete a contract entered into before the date of the decision of the authority) is risky, for the local authority is empowered to pull down, remove or alter it to comply with the scheme; and that without payment of any compensation, should it be found eventually to contravene the scheme, when the latter is finally approved. Nevertheless, it is possible, under section 4 of the Act, to obtain permission from the Minister of Health for the work to proceed. Furthermore, under the Town Planning (General Interim Development) Order, 1922, a local authority can grant "permission" for development, subject to compliance with such requirements as they may reasonably impose to secure the objects of the scheme; and there is a right of appeal to the Minister of Health, both as to the requirements and the withholding of permission.

The general order, above referred to, remains in force until a preliminary statement of the proposals to be included in the town planning scheme are approved by the Minister of Health; or, if he dispenses with the preliminary statement, then until the final approval of the scheme by him.

ARCHITECTURE OF TO-DAY AND TO-MORROW

At a meeting of the Royal Society of Arts, held on March 26 (Mr. Charles Marriott in the chair), Mr. Howard M. Robertson, F.R.I.B.A., S.A.D.G. (Principal of the Architectural Association Schools), read a paper on this subject, in the course of which he said that architecture arose from a proper satisfaction of the building programme. The American architect, Frank Lloyd Wright, had said, "The business of architecture is to establish emotional relationship by means of raw materials. Architecture goes beyond utilitarian needs. By the use of inert materials and starting from conditions more or less utilitarian, you have established a certain relationship which has aroused the emotions. That is architecture." In other words, architecture was building which was related to humanism.

Into architectural design at all periods of history had entered three main governing factors: firstly, the programme of practical requirements, *i.e.*, the function or purpose of the building; secondly, the structure, by means of which practical realisation was given to the programme; thirdly, the relationship through design and decoration, of the material building to the abstract human emotions. This latter was the element which Sir Henry Wootton termed "delight." It related to pleasure, but to the other human senses and emotions as well.

The evolution of architecture was traced through the development of these three factors. Modern architecture was that which responded to the programme of the day, was built according to the methods of the day, and fulfilled the "pleasure" requirements of the day. There was, therefore, no modern style as such. All architecture, which, in its period, was what we called advanced, *i.e.*, fulfilled its purpose up to the available limits of human achievement, was modern. Even a revival might be modern, provided it were in tune with the material and æsthetic needs of its day.

The evolution of the programme was linked with the march of civilisation, the growth of culture, the extent of material demands. In the realm of domestic architecture the programme of to-day varied little in its main factors from that of 2,000 years ago. We still lived in individual cells called rooms, in small houses or in flats. And even the latter were not new inventions, for flats existed in Ostia 1,500 years ago, and were actually fitted with a form of central heating. The demand for change in domestic design had been slight up to the present day, and was confined in the main to improved equipment, sanitation, better utilisation of space, and better control of light and air.

In other categories of building, however, the programme had greatly changed. Commercial demands of to-day had no precedent in antiquity—huge factories equipped with marvellous plant, great office buildings with rapid means of vertical transport, railway and air stations with vast spans, shops in which a maximum of uninterrupted floor space was required, theatres, concert halls, and cinemas holding thousands, all of whom must see and hear perfectly. The programme here had been shaped by modern science, and was, therefore, a new one. Hence, while domestic architecture evolved slowly, commercial and public architecture underwent rapid and constant changes.

As regards structure, that too had changed, and since structure was the second great influence, we found that fresh conceptions of structure profoundly modified architectural expression. With each great structural revolution corresponded a great change in design. The main phases of structure were marked by the development of the post and lintel, exemplified in early civilisation and finding its best expression in Greek architecture, which was revered because of its perfect development of that structural principle. Second came the development of the straight lintel into the curved lintel, the monolithic vault without thrust used by the Romans. The principle of the pier or wall supporting an inert mass still, however, remained. Thirdly came the Gothic vault, a structure of mechanics—action and reaction—resulting in the architecture of poise. Fourthly came the steel frame, more similar in principle to Gothic than to Greek, an architecture of tension and compression, in which the direction and nature of the stresses differed from those of the vault. The steel frame was a revolutionary discovery, one bound to modify profoundly the architectural expression. And, lastly, we had the concrete frame, which differed from the steel frame because of the nature of its make-up. This structure gave rise to plastic architecture. Like the steel frame, it eliminated the wall as a weight-bearing element; but being essentially a structure of post and slab, as opposed to stanchion and girder, it permitted the introduction of fresh elements in design, such as the cantilever and overhang. In consequence, once more the expression of architecture became subject to fresh change.

These five phases of structure were basically different. Small wonder, therefore, that it was practically impossible for the designer to be in the full sense traditional. Evolution proceeded, not gradually, but by successive leaps. Hence the architect could only logically develop expression according to the phase which was governing at the time. One worked, or should work, in the light of the structural knowledge of to-day, and not limit oneself to that of yesterday. Concrete structure had given us the great Festival Hall at Breslau, the Frankfurt Market, the churches of Perret and Moser, and a host of other buildings, the expression of which was influenced by materials. They were typical, as were the Lyons Market and the Woolworth Tower, of a structure of steel. For without steel both of these became unrealisable. To-morrow we might have other methods and still another expression.

As for the third factor, æsthetic pleasure, that was bound up with climate, race, education, development, influences. The world was subject to fashions, waves of feeling and emotion, licence and freedom, or puritanical restriction, phases of vulgarity, periods of eclecticism. Architecture reflected these, as it should. It reflected, in particular, the personality of the designer, himself the product of the civilisation in which he found himself.

As regards present-day achievements, it was greatest in those buildings which were typical of this age—offices, factories, railway stations, market halls, theatres and cinemas, and communal dwellings on a large scale. These buildings were no longer merely the enclosure of space by walls and roofs to give shelter and seclusion. They had become living machines, equipped with a complex mechanism of lifts, heating and ventilating, electricity, and all the plant required for specialist services. Thus they became dynamic instead of static. And their expression tended to-day to suggest the hidden forces within. This factor largely accounted for the interest and satisfaction which truly modern buildings awakened; they responded to something which formed a background to present-day existence.

The realisation of function was something which impressed itself in every direction, and particularly on the youth which was born into a world concerned with practical considerations and scientific progress. The demand of the future generation towards architecture was likely to be increasingly exacting, and it would be concerned rather with perfect function and service than with archæology or style. Formulæ in design, as established through subservience to period style, would fall into disfavour, but would be replaced by an increasing knowledge of design principles, a revival of the study of geometrical proportioning, an application of methods of achieving harmony and rhythm in form. Already men like Le Corbusier had studied Greek work, its geometrical basis, and had done so primarily with the idea of isolating basic design principles and applying them to modern building forms.

Germany, Holland, and Central Europe generally, together with Soviet Russia, had accepted enthusiastically a functional architecture with an æsthetic appeal to the eye through the significance of form rather than the reminiscence of style. This attitude was gaining ground in England; and once established, the newer architecture would create its own response to the demand for humanism in design. This would come about through a revival in craftsmanship, and in decoration through sculpture and colour, and was already evident in the increasing contact between architecture and the applied arts.

In large cities traffic considerations would be a big factor in architectural design. Two-level streets, the introduction of tall buildings at cardinal points to relieve pressure on ground space, might create new architectural motifs; in any case, it was likely that an increase of glass area, and a lighter and more economical method of walling than the present system of brick and stone, would profoundly modify externals. The elimination of excessive smoke from cities was a first important step, and the immediate hope seemed to lie in intensive electrical development. In any case, it was probable that future city architecture would take account of the possibility of using the flat roofs of buildings for recreation and pedestrian traffic, for better conditions of light and air would always be obtainable at the highest levels. Already in American cities the topmost flats and offices commanded the highest rents, and the forthcoming Chicago Exhibition would witness a complete system of roof level circulation.

Modern decoration reflected the trend of major architectural forms. Many so-called modern ideas were not new; for instance, steel furniture, which appeared as long ago as at the time of the 1851 Exhibition. But the expression had altered and appeared novel in its present form. Taste to-day was improving. Design was valued for its own sake, regardless of period. But the level was still low, particularly in street architecture, where the legitimate demands of commerce in the way of shop fronts, advertising by illuminated signs, etc., was being met in a very mediocre way. The possibilities of light, for instance, were only dimly felt; and cinemas and theatres, on the facades of which signs must inevitably find a place, were still designed with an architectural cloak which took no account of this vital element.

England was terribly conservative in architectural design. One reason lay in the comparative stagnation of the past fifty years, and the lack of an evolutionary link between the past and the future, which made it difficult to create new forms alongside of the old. Another cause was the reflection, in architecture, of the attitude which looked with satisfaction on past supremacy, and had neglected the progress made in other countries. It was likely, however, that the younger generation of architectural students, who were alive to the necessity for a changed outlook, would bring about a great development in which the spirit of modern design would be acclimatised to England. This hope for the future would, however, be greatly jeopardised by an extension of the idea of official architecture—extensive public works designed by Government departments. This menace loomed large at the present time and was utterly opposed to progress in the arts which required freedom to create, and a healthy and natural competition. Officialdom created routine, and architecture in England, if it was to regain its vanishing prestige, must be released from the routine outlook.

SOCIETIES AND INSTITUTIONS

SHEFFIELD, SOUTH YORKSHIRE AND DISTRICT SOCIETY.

Easements of Light.

A lecture on "Easements of Light" was delivered by Mr. John Swarbrick, F.R.I.B.A., on March 13, before this society, Mr. W. G. Buck, F.R.I.B.A., Vice-President, in the chair. The lecturer dealt with the various kinds of projections now used in easements of light disputes whereby it was possible clearly to define in an entirely scientific manner the extent of the injury resulting from an infringement of light, these methods being now adopted in the settlement of disputes both in court and arbitration. In the past it had been exceedingly difficult to assess in a proper manner what would be a reasonable amount of compensation to pay to a firm whose easements of light had been detrimentally affected by a new building. This difficulty had arisen owing to the lack of means to define scientifically in an absolutely indisputable way the exact nature of the injury that had been done. Fortunately, means had now been found whereby all this uncertainty had been removed. There might be still differences regarding the extent to which a specific infringement of light would affect the rental value, but there need be no uncertainty regarding the precise nature of the infringement. At one time it was customary to measure lighting conditions by means of photometers, but this could obviously only be done when the conditions in question were in existence, as after a new building had been erected. The method of measuring loss of illumination on which he placed most reliance, was represented by a series of projections on paper which were usually known as sky projections, calculating diagrams and daylight plans. The new methods were most helpful, because they made it possible not only to show how much light would be lost owing to the erection of a proposed new building that had not been commenced, but also to prove exactly the amount of light that was obstructed by some previous erection that had been demolished. In making such projections it was, of course, necessary to assume some definite standard of sky luminosity for all conditions, as otherwise the ratios on one drawing would not be comparable with those on another. In preparing daylight plans, it had also to be remembered that it was the practice to determine the nature of the lighting conditions at table level or approximately three feet above the floor. The plans, therefore, recorded what the effect would be on a horizontal plane at table level, which was the most important plane in the room for ordinary clerical purposes. One of the easements of light drawings most frequently used in the settlement of disputes was the sky projection. A sky projection was usually made so as to show what portion of the sky surface would be obstructed by both the proposed and the original structures. From the eye, which was assumed to be at table level and on the surface of the window-glass, rays of light might be assumed to pass so as to mark on the dome of the sky the areas that would be concealed by both the original and ultimate structures. In the same way the jamb and head of the window opening would be likewise produced. The practice was to imagine the sky divided into segments of five degrees each way by lines representing celestial latitude and longitude, and similar projections might be made to show the effect at points within a room.

In the case of both sky projections and calculating diagrams, the effect at one point alone was recorded in the case of each drawing, and the effect at this one point, although absolutely accurately represented, might be quite misleading as regards the greater part of the floor area. It was, therefore, desirable in all important cases to prepare in addition large scale daylight plans, on which definite percentages of light on a normal day, under both original and ultimate conditions, could be clearly plotted. With the assistance of sky projections, calculating diagrams and daylight plans, it was comparatively easy to define clearly the nature of lighting under both original and ultimate conditions, but even when this had been done and agreed and accepted by both parties, the problem still remained as to how far such infringements would depreciate the rental value of rooms.

The lecturer then went into the question of whether in preparing daylight plans allowances should be made for reflection from the ceiling, walls and objects within the room, but said he thought that to do so would be a questionable proceeding, in view of the desirability of limiting the inquiry to the consideration of the rays of direct daylight falling on an imaginary plane at table level, and the advantage of not introducing merely conjectural percentages that would be very small and dependent entirely upon variable conditions, such as the colour and finish of the decorations; and the same objections would apply to considering light reflected from glazed or limewashed walls which might be very clean, moderately clean, or very dirty.

Although modern methods had removed the uncertainty regarding the extent to which an infringement might have affected the natural illumination of interiors, there still remained the problem of determining to what degree the depreciated lighting would affect the rental value, and he suggested that a method of logically deducing a percentage of depreciation would be by ascertaining the ratio of inadequately lighted area to the entire area at table height of a room under both the original and ultimate conditions and by adopting the difference as the percentage required, but much depended upon the purpose for which the rooms were used, and each case must be considered on its own merits; and with regard to the rental value of premises per square foot or per square yard there might be an appreciable difference of opinion by experts as the value was naturally affected by the demand, trade conditions, situation, and other matters. When the question of percentage of depreciation and rental value had been agreed by both parties or otherwise determined, there was little further difficulty to be anticipated, as it was customary to capitalise the annual depreciation on the 5 per cent. table.

It sometimes happened that the easements of light infringed existed in a dilapidated old building of low rental value, which was about to be demolished. It must, however, be remembered that the easements might be preserved in a new structure to supersede the former building, and that the valuation of depreciation should take into consideration the higher rental values obtainable from the date when the new buildings would be tenantable. Another possibility was that rooms in office buildings might need to be differently sub-divided at some definite future date, with the result that lateral light, which had compensated for the injury done by an infringement, would be completely intercepted, and as the full effect of an infringement would then be felt, the course would obviously be to calculate the capital value in perpetuity of compensation for loss of rent per annum in respect of the ultimate depreciation of light and to deduct from it the present value of the amount of compensation payable annually up to the date when the new sub-division of the offices would take place, assuming that no compensation would be payable prior to the sub-division. The standard of what constituted a reasonable amount of light could not be the same for all parts of a large city, and the lecturer mentioned the opinion given by Lord Thesiger in the case of Stinges and Bridgman, when he expressed the view that what might constitute a nuisance in Belgrave Square need not necessarily do so in Bermondsey.

DEVON AND CORNWALL ARCHITECTURAL SOCIETY.

Annual Meeting.

The annual meeting of this Society was held on Saturday, March 22, at the Duke of Cornwall Hotel, Plymouth. The chair was taken by the President, Mr. W. A. Vercoe, A.R.I.B.A., of Plymouth, other members present being:—

The Exeter Branch: Messrs. J. Bennett, L.R.I.B.A., J. C. Beare, A.R.I.B.A., R. M. Challice, H. M. R. Drury, A.R.I.B.A., E. F. Hooper, L.R.I.B.A., A. H. Ough, F.R.I.B.A., H. A. Peters, A.R.I.B.A., H. E. Robertson, W. J. M. Thomasson, A.R.I.B.A., L. F. Tonar, L.R.I.B.A., and J. Challice, A.R.I.B.A. (hon. secretary).

The Plymouth Branch: Messrs. Chas. Cheverton, F.R.I.B.A., W. H. May, F.R.I.B.A., A. C. Norman, F.R.I.B.A., H. Victor Prigg, A.M.I.C.E., A. S. Parker, F.R.I.B.A., A. V. Rooke, F.R.I.B.A., B. Priestley Shires, F.R.I.B.A., H. R. Venning, L.R.I.B.A., W. W. Wood, A.R.I.B.A., E. Ashworth, S. J. Crispin, A. T. Martindale, L.R.I.B.A., H. Watts, A.R.I.B.A., P. J. T. Carter, E. C. Hicks, J. J. Johns, J. G. Reid, J. H. Serpell, and A. F. W. Toms.

The President, in opening the meeting, drew attention to the brooch which has been recently added to the badge of office, and explained that the addition of the Devon Arms and the title of the Society, as recently altered, had materially increased the historical value of the jewel.

The annual report and balance sheet of the Society were presented and unanimously adopted.

Arising out of the report and balance sheet, the President referred to the healthy financial state of the Society, and pointed out that annual subscriptions to kindred societies had been recently increased. He also mentioned that the value of the prizes offered in the competitions open to students had also been increased, and that the results had more than justified this expenditure.

The prizes offered for the annual competition of measured drawings were awarded to Mr. J. G. Reid and Mr. E. C. Hicks, both of Plymouth, who were warmly congratulated on the high standard of their work.

Mr. W. A. Vercoe, the retiring president, then delivered his address, in the course of which he referred to many matters of current interest. The trend of architectural design in this country, he said, was an interesting study at the moment. The cost of post-war building meant the scrapping of everything that was not absolutely essential to the purpose of building, and in itself was a good thing. The dressing-up of modern buildings with a substantial skin of columns and entablature, mouldings and skulls of animals fabricated in stone was no longer seen in the best designs. Experiments there were in the ancient manner, of course, with excursions into the art of Egypt.

One really modern building in every way that stood out as a triumph was the fine design of the new Horticultural Hall at Westminster. Concrete, brick and stone were used in charming combination, and the great arched interior was magnificent. Perfect fitness for its purpose was there, with definite economy in construction.

At the close of the address a hearty vote of thanks was accorded the retiring president for his valuable and untiring devotion to the Society during his year of office.

The following officers and members of Council were elected for the ensuing year:—

President, John Bennett, L.R.I.B.A., Exeter.

Vice-Presidents, A. S. Parker, F.R.I.B.A., Plymouth, and A. H. Ough, F.R.I.B.A., Dawlish.

Past-president W. A. Vercoe, A.R.I.B.A., Plymouth; hon. treasurer, S. Dobell, Exeter; hon. auditor, L. F. Tonar, L.R.I.B.A., Exeter; hon. secretary, J. Challice, A.R.I.B.A., Exeter.

Members of Council: R. M. Challice, W. J. M. Thomasson, A.R.I.B.A., E. Kemeys Jenkin, F.R.I.B.A., W. F. R. Ham, H. Alban

Peters, A.R.I.B.A. (Exeter), B. W. Oliver, A.R.I.B.A. (Barnstaple), B. Priestley Shires, F.R.I.B.A., C. Cheverton, F.R.I.B.A., H. Victor Prigg, A.M.I.C.E., A. V. Rooke, F.R.I.B.A., W. W. Wood, A.R.I.B.A. (Plymouth).

Associated Members of Council: D. W. Cooper (Exeter) and A. T. Martindale, L.R.I.B.A. (Plymouth).

The retiring president offered congratulations to Mr. John Bennett on his election as president, handed him the badge of office, and vacated the chair in his favour. Mr. Bennett thanked the members for the honour they had accorded him, and assured them that it would be his pleasure to serve the Society to the utmost of his power.

Following the business of the meeting, Mr. W. W. Wood gave an account of the encouraging progress of the architectural department of the Central School of Arts and Crafts, Plymouth. He thanked the Society for the interest that they had taken, and mentioned that the Plymouth Education Authority highly appreciated the services of the visiting committee which the Society had nominated.

The members met at luncheon prior to the meeting, and spent an interesting hour following the meeting in a visit to buildings of historic interest.

SOUTH WALES INSTITUTE OF ARCHITECTS.

Annual Dinner.

The annual dinner of the South Wales Institute of Architects was held at the Royal Hotel, Cardiff, on Thursday, last week. Sir Banister Fletcher, P.R.I.B.A., was the principal guest, and among others supporting Mr. T. Alwyn Lloyd (President of the South Wales Institute) were Lady Banister Fletcher, the Lord Mayor and Lady Mayoress of Cardiff, the Mayor and Mayoress of Newport, and Messrs. Ian McAlister, G. C. Lawrence, C. M. E. Hadfield (President of the Sheffield, South Yorkshire and District Society of Architects and Surveyors), Principal Charles Coles, B.Sc. (Technical College, Cardiff), J. B. Dawson (Secretary, Swansea Association of Building Trade Employers), Dr. Cyril Fox, F.S.A. (director of the National Museum of Wales), Percy Watkins (Secretary, South Wales Federation of Building Trades Employers), W. R. Hewett (President of the Cardiff Master Builders' Association), T. E. Gough (President of the South Wales Federation of Building Trades Employers), and W. S. Purchon (Welsh School of Architecture, Cardiff Technical College).

Principal Rees, proposing the toast of "The Royal Institute of British Architects and its Allied Societies," said he would like to see a more vivid sense of making a town or city as beautiful as possible. The citizens and visitors had not that respect for it as one would wish. A city should be the expression of the spirit of the people. They must build more worthily, and make the city decent for children to live in. Architects should have a strong sense of their social responsibility—they were building the mould in which the people were framed. There was in Cardiff, he continued, a Welsh School of Architecture, and it was doing magnificent work. It had a very high record, and at the head of it was Mr. W. S. Purchon. There was, as far as he could see, only one thing lacking about the Welsh School of Architecture, and that was that it had not got what was called university recognition. Other schools of architecture had university recognition, and this school, which even surpassed some that had, had not got it. What one would like to see would be something of this kind: First of all, the Welsh School of Architecture given university recognition by the University of Wales, and one would like to see along with that the title of Professor of Architecture and the Applied Arts given to Mr. Purchon. They would like to see Mr. Purchon do propaganda work in Wales in favour of architecture and the applied arts. One would like to see Wales and Monmouthshire made his one diocese. That meant that they would have to set him free for part of his time. He (the speaker) would also like to see their arts students given facilities to attend qualifying courses in architecture and the applied arts. He could see no difficulty in realising these aims, and was determined, so far as lay in his power, to assist in realising them.

Sir Banister Fletcher, responding, paid a tribute to the work of Mr. Purchon, and expressed the hope that Principal Rees's suggestion could be carried out in the near future. After dealing with the educational facilities offered in Cardiff, the speaker referred to the Royal Institute of British Architects as a great Imperial federation for the advancement of the art. It numbered in its ranks some 11,000 architects, with some 4,000 or 5,000 members of allied societies.

Mr. T. Alwyn Lloyd, who also responded, said the South Wales Institute had probably the largest area of any of the Allied Societies, and one which it would be difficult to beat in its variety of interests. The speaker referred to local town-planning activities and to the efforts which were being made for the preservation of the countryside.

The Lord Mayor, in responding to the toast of "Our Guests," proposed by Lieut.-Col. E. H. Fawckner, congratulated Messrs. Ivor Jones and Percy Thomas on winning the competition for Swansea's proposed civic centre.

Mr. G. C. Lawrence and Mr. T. E. Gough also responded.

DESIGN AND INDUSTRIES ASSOCIATION.

Modern Shops.

A lecture on "The Design of Modern Shops" was given on March 27, by Mr. Joseph Emberton, A.R.I.B.A., at a meeting of this Association, held at 6, Queen Square, W.C. The lecturer said it seemed to him, broadly speaking, that there were two methods of selling goods in shops: (1) over the counter with the counter forming a barrier, and (2) in an open showroom where the buyer and seller were, as it were, on the same side of the fence. The first method was used almost exclusively in former times, but the second, or showroom method, was gradually taking the place of the counter, more especially when concerned with the sale of clothes and larger articles. Whilst the counter was still necessary for the quick sale of small articles, the showroom method had many advantages.

The disadvantages of the counter might be described as physical, and he believed, from a psychological point of view, the elimination of the counter was very dangerous where physical conditions would permit, for the reason that the counter formed a very definite partition or barrier between the buyer and the seller. It contrasted the two, and, to some extent, engendered suspicion. It was obviously far better that the buyer and seller should feel like partners in a deal, or even that the seller should appear as a servant of the buyer, than that they should face each other in opposition over—a counter. Obviously, it was an advantage for the salesman, or saleswoman, to advance towards a customer who entered the showroom, rather than the customer seeking the salesman in his lair behind the counter. Where small articles, such as haberdashery, were concerned when people entered the shop knowing exactly what they wanted, the subtlety of the showroom method was unnecessary and inappropriate.

Dealing with fixtures, the lecturer said in the old days, and even now, to a considerable extent, the fixtures in most shops consisted of rows and rows of shelving and drawers, displaying an untidy array of merchandise, which produced a feeling of inferiority and at the same time did not provide any satisfactory background for the display of goods. There were many objections to this treatment. In the first place, the boxes and wrappings wore out through constant handling, and replacements became necessary, thereby incurring unnecessary expense. Secondly, it should be possible to display to a prospective buyer only such goods as the salesman decided were likely to suit. It was surely undesirable that the customer should choose, say, a piece of material from a shelf, when the stock only consisted of a remnant, or a pair of shoes which were not stocked in the necessary size. These disadvantages, with regard to most trades, could be overcome by enclosing the fixtures with doors, or even separating the stock-room from the showroom. Such a method enabled the salesman to obtain the customer's exact requirements, and offer only such goods as were likely to meet the case. The enclosing of the fixtures also provided a considered background for the adequate display of representative articles. The contrast of a restful background with a brightly lighted showcase containing well-displayed exhibits, obviously enhanced the value of the showcase far more than would be so were the background of the showcase formed of a restless pattern of untidy shelves. With the fixtures forming a simple and attractive background a more ample display of selected goods might be made.

Lighting played an important part in the fitting up of a shop, and this was a subject on which we, in London, were far behind the Continent. Every shop, unless it was for the sale of electric light fittings, should be lighted from a concealed source, otherwise the source of light created the greatest impression in the whole room. It was usually the thing which one observed first. So if only this point was eliminated the goods lighted become the primary interest. Spot lighting could be used with remarkable effect in enhancing the attractiveness of individual articles.

Turning to the question of shop fronts, the speaker said that here lighting was of even more importance than inside, as this part of the shop was in more direct competition with its rivals. Here it was even more necessary to screen the source of light, although in London he should think that only about 25 per cent. of cases seriously attempted to deal with this aspect, and some of the things one saw were so utterly ridiculous that it was difficult to imagine how they could ever have happened.

He thought, generally speaking, that the most satisfactory type of shopfront was a plain sheet of glass of goodly proportions, with a fair margin all round of plain material. The margin isolated the window from the next, gave it individuality, and the fact that the window could be seen from one side only facilitated the dramatic display and lighting enormously. The windows in the new Galeries Lafayette shop in Paris were an excellent example of this, and here an opaque canopy of considerable projection had been provided. Although this might have been constructed to provide shelter for the display of goods on the pavement—in French fashion—it added enormously to the power of the lighting expert in his treatment of the window, as the elimination of daylight enabled him to produce his considered lighting effects all day long.

With regard to the shape of shopfronts, the lecturer said it seemed to him that the entrance to a shop ought to be like a funnel. This arrangement he illustrated by showing a number of slides of a company's boot-shops in different parts of the country. His chief problem in these shops, he said, had been to get a lot of glass area out of very small frontages. One instance had been a shop with a 20 ft. frontage, and in order to avoid doing the usual sort of thing, the windows were made in niches, by which means it had been possible to display the goods without the lights being visible, at the same time being able to exhibit seven or eight types of shoes. Out of a frontage of 20 ft. he had been able to obtain 27 ft. of glass area. He thought the arrangement of the glass and its surroundings ought to receive far greater consideration than it did at present. In the case of another shop, with a 17 ft. frontage, he had been able to put in five windows giving a total window frontage of 22 ft.

The lecture was illustrated by lantern slides.

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS.

Presentation to Major Tasker.

Major R. I. Tasker, Chairman of the London County Council, and last year's President of the Incorporated Association of Architects and Surveyors, was entertained at a dinner at the St. Ermin's Hotel, Westminster, on Friday night, March 28, by his colleagues of the Association, who presented Major Tasker with black opal and diamond cuff-links and studs, and a replica of the presidential badge, and Mrs. Tasker with a diamond brooch and carriage clock. On the following night Major and Mrs. Tasker, accompanied by Major G. B. J. Athoe, Secretary of the Association, visited Manchester, and were entertained at a dinner at the Victoria Hotel by the local branch of the Association.

INCORPORATED INSTITUTE OF BRITISH DECORATORS.

At the meeting of this Institute, held on March 11, in the Stationers' Hall, Messrs. H. Butler and E. H. Bickfield, who were recently admitted Fellows, were presented with certificates by Mr. C. A. Hindley, President of the Institute. A lecture was then delivered to a large and representative gathering of members and their friends by Professor A. E. Richardson, F.R.I.B.A., on "English and French Decoration in the Eighteenth Century contrasted."

MASTER SIGN MAKERS' ASSOCIATION.

A report of the first annual conference of this association, held last week, will be given in our next issue.

CARPENTERS' HALL LECTURE.

A report of Mr. Arthur Keen's lecture on Charing Cross Bridge, delivered at the Carpenters' Hall, on Monday last, will be given in our next issue.

ARCHITECTURAL ASSOCIATION OF IRELAND.

The Dramatic Society of the Architectural Association of Ireland gave an entertainment at 8, Merrion Square, on March 26 and 27, when four one-act plays written by members of the cast were given. The plays, which were all of architectural interest and cleverly written, were admirably produced by Mr. P. Bailey, who is well known in Dublin as a producer.

Malayan Town Planning.

In the course of 1928, states an official report, the Federated Malay States Town-Planning Department was called upon to face, conjointly with the Sanitary Boards, Public Works and other Departments, a further heavy increase in work due to the extraordinary acceleration of building, development and expansion experienced by various towns, large and small. Part of this acceleration arose from exceptional activities on the part of private landowners in the direction of sub-division and building. The requests for lay-outs, details of development proposals, negotiation and immediate action reached record figures. The results achieved by the Department and responsible authorities in this direction were only partially demonstrated by the large number of new buildings, roads, street-widenings and improvements, drainage, housing and other new works in course of execution in all Malaya's rapidly growing towns and future cities. Many other results, still on paper, await either private or public action. The growth of the Department's labours may be summarised by the fact that plans handled in 1925 totalled 826, in 1926 1,185, and in 1927 1,378—these figures being for the whole of the F.M.S.—while in 1928, the figure for the States of Perak and Selangor only was 1,460.

CHARING CROSS BRIDGE

THE Private Bill Committee which is considering the Charing Cross Bridge Bill, promoted by the London County Council, have heard further evidence on the scheme.

Sir PERCY SIMMONS, Chairman of Improvements Committee of the L.C.C., in reply to Mr. Tyldesley Jones, K.C. (for Westminster City Council), agreed that the present scheme was really cut and dried by July, 1929. Asked whether, except for what was obtained from the newspapers and reports of the London County Council proceedings, Westminster City Council would not have known anything about it, witness said that that was so, but Westminster City Council, he added, were not going to be asked to contribute to the cost of the scheme. He would accept counsel's statement that, as a matter of fact, it was not until August that a copy of the proposed plan was sent, and then unofficially, to the city engineer.

Witness said he would be surprised to hear that Westminster City Council took the view that there was no necessity to spend a single penny on the widening of St. Martin's-lane or Charing Cross-road now. He held the view that the streets there were very congested, and he would suggest that the City Council realised that this was a great opportunity to get the improvement paid for by the Government and the County Council.

Mr. TYLDESLEY JONES:— I challenge that absolutely, and the Committee will hear evidence that there is no congestion at all there to-day. The construction of this bridge will bring a new flow of traffic, which is going north by other routes to-day, which will dump the traffic at the Cavell statue and make no provision for its getting away. It is an incomplete scheme.

Mr. CHARTERIS, K.C. (for the London County Council) then re-examined the witness, who agreed that if St. Martin's-lane were to be regarded as part of the present scheme there was no logical reason why Holborn should not, because, if the scheme accentuated congestion in St. Martin's-lane, it would be passed on, in so far as the traffic was going northward, to Holborn. It was a somewhat evasive point as to where the extent of the scheme ceased.

Questioned as to the objections of Lambeth to the Bill, Sir Percy Simmons said that that borough had never asked for any information about the scheme. The only improvement that Lambeth Borough Council had ever considered was the widening of Oakley-street, and that was part of the proposals in this Bill. He did not see any reason why the new station should not be a becoming feature in the scheme. He agreed that if it was of an architectural character, such as was anticipated, then it would set the key to the neighbouring structures.

Sir HENRY MAYBURY, consulting engineer on roads and traffic to the Ministry of Transport, stated in evidence that when the scheme for a bridge at Charing Cross was first considered the Lion Brewery site was regarded by the London and Home Counties Traffic Advisory Committee as more suitable than the Waterloo Junction site for the new station. The scheme was thoroughly investigated from the traffic point of view, and it was decided that it would have an enormous effect on the fluidity of traffic in the whole area.

In reply to the Chairman, witness said that, while Waterloo Bridge might be the most convenient route for north and south traffic, it would not solve the problem of the Strand and east and west traffic generally. St. Martin's-lane must one day be widened, whether they had this bridge or not. The widening was not included in this scheme, as it was not one of the approaches to the bridge. It should be an ordinary highway improvement.

Replying to further questions, witness said that it might not be impossible to make a way from the bridge into Northumberland-avenue, but it would be very inadvisable. In order to make an approach to the bridge from the Embankment on that side of the river, it would be necessary to raise the Embankment 15 ft. so as to give the required head-room for navigation under the bridge. Over 1,000 vehicles an hour went from the Embankment up Northumberland-avenue to Trafalgar-square, and that traffic would then be interfered with. Such a scheme would spoil the Embankment entirely, both physically and as a traffic route.

He did not consider that the viaducts on the south side of the river would impede traffic if they were properly lighted. The railway company proposed to construct shops in these viaducts, and were expecting to make considerable revenue from them.

At an earlier stage Mr. Frederick Palmer, consulting engineer, who acted jointly with Sir George Humphreys as engineer to the Charing Cross Bridge project, was cross-examined by Mr. Tyldesley Jones, K.C., on behalf of the port of London Authority, the Association of Master Lightermen and Barge Owners of the Port of London, and the Thames Up-River Users' Association. Counsel pointed out that Lambeth Bridge was being rebuilt, which involved temporary work in what was the straightest stretch of the river—between Lambeth Bridge and Westminster Bridge, a distance of roughly 800 yards. "Would you be surprised," he asked the witness, "to hear that these temporary works are so affecting currents that the effect is felt at Westminster Bridge?"

Mr. Palmer: I would be very much surprised.

Counsel: You would not have expected that?—No.

In reply to further questions, the witness agreed that Waterloo Bridge and Charing Cross Bridge were on the most difficult stretch of the river for navigation. He was not aware that the difficulties of navigation, owing to the closing of certain arches in Waterloo Bridge and the erection of the temporary bridge, were such that tug-owners had had to decrease their tows from six barges to four.

Mr. Palmer later stated that the L.C.C. were prepared to give an undertaking that the three northern arches of Waterloo Bridge would be kept open while the northern arches of Charing Cross Bridge were being constructed, and conversely.

The Chairman: This is surely an engineering matter that ought to be arranged between the two authorities.

Counsel: The real point is that the London County Council are being given a free hand to hold up the river, which is of the utmost importance to London. It seems to us that a simple way out of the difficulty is to say that Waterloo Bridge must be finished first, and we maintain that that can be done.

The Chairman: It is quite impossible to foretell how long Waterloo Bridge will take to repair. Charing Cross Bridge, if this Bill is passed, must not be delayed indefinitely. You must find some intermediate stage. How far can these objections be met?

Mr. Palmer: The offer we are prepared to make is that no work shall be done on both bridges on the navigable side of the river at the same time.

Counsel: That does not touch the point. The difficulties are caused by the temporary works at Waterloo Bridge, which would be left there while you started Charing Cross Bridge.

After further discussion, Mr. Tyldesley Jones said that negotiations had been going on between the engineers for a fortnight. He agreed with the suggestion of the Chairman that these negotiations should be reopened, and, if a settlement were not reached by Thursday, Mr. Palmer would be recalled to give detailed evidence on the subject.

"THE BUILDER" DEBATE

XXVII.—OLD BUILDINGS, USEFUL OR ORNAMENTAL?

"That the indiscriminate preservation of old buildings which have outlived their usefulness is a confession of present failure."

SIR,—Much confusion of thought has existed for some time past on this subject of the preservation of old buildings, and this debate affords an opportunity to suggest some basis for clear and systematic thinking. Neither "Positive" nor "Negative" has probed very deeply into the matter. "Positive," in applying the drastic test of usefulness, makes the exception of buildings which have some historical association "the rubbing out of which would be a crime against local patriotism"; and this exception, I understand, accounts for the adjective "indiscriminate" in the terms of the motion. "Negative" would preserve buildings because of what he calls the "reminder of a specific historical fact," the fact being that there "was a time in English history when men built with honesty and singleness of purpose."

Neither reason is, I contend, of much value. To preserve a building because it is associated with an historical event or personage is sentimentality, while the local pride it arouses is a barren emotion. Such buildings are not in the least connected with the essential value of the personage or event, as they do not emanate from them, but they are prized only because of some past physical connection which usually has no great significance in itself. And preserving old buildings because they are a reminder that men once "built with honesty and singleness of purpose" is a moral consideration that confuses an issue that is almost solely concerned with beauty and utility. To the sane and well-balanced, critical student of architectural history it is largely the outcome of the romantic attitude that "distance lends enchantment to the view."

The question to be asked and to which we must attempt to give an answer is:—Why should we preserve old buildings that could be replaced by something more useful? By the term "useful" in the terms of the motion I understand that which can be used for the practical purposes of life and not merely as an object of enjoyment and study.

The practice of architecture may be divided broadly under two main headings: the disposition of the material into forms pleasing to the eye, or, to express it more elaborately, the æsthetic sense; and the organisation of the available space for the purpose for which the building is intended. The first is that which makes architecture a fine art, the second is more the science of building. Now it is chiefly for one of these reasons that an old building is preserved, and I suggest that it should be preserved for no other reason. (A monument erected to the memory of an individual obviously comes under a different category as no utilitarian principle is affected.) An old building, then, merits preservation either for its formal beauty or for being a distinctive organisation of space for its particular purpose. The former would include preserving a building because it is an example of a felicitous style of architecture, because its forms are exceptionally beautiful, such as the ruined Yorkshire abbeys, or because its beauty is unique. The latter would include all old buildings or ruins that show some interesting development in the designing of a specific type of traditional building. For example, the Norman keeps and the little later manor houses, in the designs of which are revealed the origins of modern domestic architecture, should be preserved, as they demonstrate that the modern house is a gradual evolution from past work and comes into existence by developments from the work of our predecessors. Each link in such a chain may still afford valuable suggestions to the modern designer.

It sometimes happens that an old building of admitted value stands in the way of a town-planning scheme or improvement, and the question arises, Which shall be sacrificed? The answer should depend on the rarity of the type of old building. If its style and beauty are unique, or it is one of the finest examples of its kind in the country, or if it illustrates superlatively well a stage in the evolution of design, then some other town-planning scheme should be devised; but if there are other finer examples in the country, then the old building should be sacrificed. To preserve a building merely because it is old and a product of a certain period, without either of the considerations I have adumbrated strongly to recommend its preservation, is putting a greater value on the moderate achievements of the past than on contemporary ability which amounts to a confession of present failure.

This logically brings us to a type of old building that is often preserved, which, not having any formal architectural beauty, has acquired by the touch of time a certain picturesqueness and becomes seemingly an integral part of charming surroundings. Although presenting a stronger reason for preservation than advanced either by "Positive" or "Negative," yet I think it is inadequate. I am not sure that the emotions such old work arouses are good emotions. Those gifts of time, picturesqueness and charm, are confused with beauty, and time creates a halo for the past that the past does not deserve. The tribute we often pay to certain so-called romantic ages of history should be more justly paid to time. And if we thus pay tribute to time, do we not preserve a building merely because it is old?

ARNOLD WHITTICK.

SIR,—It is perhaps only natural to sympathise with the protagonists of both sides when discussing this subject, though the attitude changes with the occasion. Anyone who has sat under the useful but rather tiresome solemnities of the S.P.A.B. will from sheer exasperation rush into the opposite extreme and support the "bungaloid" growths and concrete boxes which at any other time he would be the first to denounce, while, on the other hand, sheer disgust with much of modern disorderliness and haste will direct another to look only backwards and "sigh for what is not." When all the see-sawing from one side to the other is ended there still remains much that the majority of arguments, whether for or against, do not touch.

We nearly all of us dislike the injury done through ignorance and cupidity to old buildings, but the causes are ignored, and it is always "the other fellow" who is to blame. It is easy enough to denounce, and sentimentality finds plenty of scope to appear wiser than others in doing so. But who will tell us how to escape this shadow of ourselves, the dominating influence of the controversialist on either side who has yet no real understanding of how things should be bettered? There is no reason except our own choice that so much of modern building is unsatisfactory and impermanent, when we value so little other objects which direct us towards something better.

Your correspondent "Negative" tells us that we need in these days the constant reminder of the time when "men built with honesty and singleness of purpose," as a reason for the preservation of old buildings. While sincerely respecting his point of view I much doubt its efficacy. For it is not what is without us, but within us that matters. We do not learn honesty from old buildings but through being honest ourselves. It is not their single-mindedness but our own which determines the matter. Old buildings will not make us honest if we will not take the trouble to be so.

All the oceans of talk are just for this reason so often futile. In life we can generally have what we most desire, even though our choice were for ass's ears! Deliverance will come from within. Though we complain of circumstances, we really like the thing we do, and if modern building is open to criticism, it is the level of our life that is wrong, and the example of old buildings will not make us change it. As has been wisely said, in doing our work less well "we live poor, to die rich." I think the life of these old builders was freer, richer, than our own, not that we are less free or rich, but that fuller use was made of the patrimony. For as courage lies at the roots of character, fear had not invented for them a gospel of convenience, makeshift and second best to become a religion. It is fear that retards us. Old buildings should as much as possible be preserved, but so also must we preserve the best in our own lives, and when we make them what they should be our hearts will be lighter. It is because we know we are not artists as they were, that our lives are not lived in the region of art, that we spend so much time in criticisms and complaint. If we were nearer to the good there would be less time for controversy.

ISIS.

Sir,—If I may say so, I think the chief purpose of these debates, and one which is particularly brought to the front by this one, is that they serve to emphasise the many-sidedness of truth, and the futility of making sweeping regulations for things which are of their nature individual and diverse.

Surely the way in which we have failed to preserve the beauty of antiquity reasonably is that after a period when we treated nothing of the sort as worthy of consideration, we have gone to the other extreme. Many progressive projects are hindered because of the fear that a storm will be raised when the demolition of old things which have outlived their usefulness is involved, and I would make a plea for a more open-minded approach to such matters so that each shall be treated on its merits.

"Will the community be better or worse off for such and such a step?" should be the governing question whenever ancient beauty and the potential beauty of fresh endeavour come into conflict.

PRO BONO PUBLICO.

Sir,—This interesting debate has failed to bring forth what the parties have in mind when using the term "useful." He would be a wise man who could draw the firm line beyond which utility reigns alone and yet this is surely the key note of debate. The careful preservation of a pleasant group of ancient cottages is a matter of joy to the artist; but it is also a potential joy to a public properly educated up to a sense of sound judgment; and, in more worldly vein, it is also a commercial asset to the district fortunate to contain them. If "Positive" is willing to enlarge the scope of his "utility" test, to include these broader aspects, there is little to quarrel with in his argument. But then, the case of "Negative" is not much different.

TERMINOLOGIST.

Sir,—At a time when all the peaceful beauties of our countryside are threatened by the inevitable drift of the period, we should surely cling to every link which binds us to happier and more peaceful times. The arguments of "Negative" should be taken to heart by all those who are not content to let commercialism and greed colour all the activities of our times.

P. R. E.

Greek Temple Found in Macedonia.

The Ministry of Education has been advised of the discovery of a large Doric temple at Vergina, the site of the ancient Balla, near the Haliakmon river on the opposite side to Verria (Berrhæa) in Macedonia. The temple was discovered within the enclosure of the mediæval fortress. The finds include many drums of columns, capitals, triglyphs, and the pediments of statues in coloured marble.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting!—ED.

Professional Etiquette.

[REPLY TO "PRACTICE," MARCH 28.]

SIR,—"Practice's" reply to my inquiry is excellent, so far as it goes, and I am greatly obliged to him for his advice on this matter. There are many involved personal circumstances connected with it, however, which make it by no means so easily disposed of.

In former cases of a similar nature I have acted as "Practice" suggests, and referred the client to the former architect. I should certainly do so in this case, especially as there is no reason why the former architect should not be employed, but I do not find other architects have done the same for me. This work means a new connection with a bishop and a dean, and I know that the nave of the church is to be lengthened and probably a transept added in the near future.

Is it not asking too much in these days when so many architects treat the profession as a small village grocery business might be treated in the way of cutting each other out that I should refuse the work because I am asked to repeat the former architect's design? If the vicar and vestry could be persuaded to allow me to produce a totally different design, as would have probably been the case in mediæval times, there would be no difficulty. If the design is re-used, how can I publicly acknowledge the authorship unless I insert a notice, say, in the front page of *The Times*? I cannot see how in these days of competition even the greatest altruist can be expected to refuse a small commission which is going to lead to a much bigger one, simply on such grounds as "Practice" puts forth.

I might write to the other architect and inform him of the circumstances, but we sat opposite each other at the same desk for several years in an architectural school without ever speaking, and I fear we are both convinced that the other is mentally defective. As a draughtsman I did much decorative work in colour and ironwork for his partner some years ago. This does not improve the situation. I would not write at such length except to prove that the problem is by no means so simple as "Practice" assumes.

ANXIOUS ENQUIRER.

Responsibility for Repairs.

SIR,—May I be allowed to disagree with your remarks under this heading in last week's issue of *The Builder*? It has for years been a general assumption that a fence belongs to the property on whose side are the posts and rails. I know of no legal decision or law which confirms this belief. I contend that an owner has the right of erecting his fence how he pleases, and, as the boarded side has the better appearance, I always make a practice of erecting fences with the boards facing the property. I am of the opinion that the only method of proving the ownership is by the deeds, and all fences should be marked carefully with the usual "T."

EPHESUS.

Breeze Partitions.

SIR,—Could you give us any information as to the maximum areas to which it is safe to erect breeze partitions (2 in., 3 in., and 4 in.) without reinforcement, and whether such area is affected by the relation of length to height; also the approximate increase of area permissible by reinforcing the joints with expanded metal, and whether each bed joint would need reinforcement, or only a proportion of the joints?

W. & J.

Penalty Clause.

SIR,—I should be glad to know whether the unprecedented wet weather of this winter can be taken as a legitimate reason for relaxing the penalty clause of a building contract. I understand that the uncertainty of the English climate may not be taken as a reason for such relaxation in normal circumstances, but it seems that the experience of this year has no precedent in living memory.

INQUIRER.

Seasoned Timber.

SIR,—A six-inch square newel in a recently erected staircase shows some shakes after a few months, and the builder claims that it is impossible to get timber of this size which will not shrink to some degree when fixed in a newly-built house which subsequently dries out. He further claims that he can stop up the cracks successfully and without spoiling the appearance. Would an architect be justified in permitting this procedure, or should he condemn the newels as not having been properly seasoned?

DOUBTFUL.

Road Charges.

SIR,—In apportioning road charges between frontagers, I am given to understand that a local authority has the option of either dividing up the cost at per foot of frontage, or of treating individual cases on their merits. If it can be shown that no possible benefit can arise to a frontager by the making up of a road and sewer, has a frontager a good case for appeal against an apportionment based solely on frontage? I have in mind an established property served by a front road and sewer, to which it has already contributed, and now having a new side road opened up. There is not sufficient depth to the site to afford a new building plot on to the side road, and there can therefore be no benefit to the property by the opening of the new road. Your comments would be valued.

FRONTAGER.

Head of Water.

SIR,—I should be grateful if you could settle an argument. A clerk of works has maintained that by extending up a small bore pipe from the top end of a drain he can test the drains up to the same head of water in the small pipe as he would get if the pipe were the full bore of the drain. I find it very difficult to believe and should like to hear other views.

ARCHITECT.

The Building of Subsidy Houses.

Uncertainty as to the position as regards the building by private persons of subsidy houses to let is expressed in a letter received from a provincial reader. Our correspondent, a builder, is proposing to erect a number of houses in each of two districts—and under two local authorities. He informs us that different conditions for obtaining the subsidy were demanded by each.

We learn from the Ministry of Health that such a condition of affairs is legally impossible. All Subsidy Acts, governing new proposals, have been rendered inoperative except the Housing (Financial Provisions) Act, 1924, better known as the Wheatley Act. For houses erected under special conditions the Ministry may make a contribution of £9 per house (or in agricultural parishes, £12 10s. per house) annually for 40 years. Under this Act, no lump sum subsidies are made. Copies of the Act, setting out conditions fully, may be obtained, price 6d., from H.M. Stationery Offices, at Kingsway, W.C., or elsewhere.

A.A.S.T.A. Easter Tour to Amsterdam.

We are asked to state that all who would like to join this tour should make immediate application to the secretary, Mr. A. Seymour Reeves, 26, Buckingham-gate, S.W.1 ('Phone Victoria 9300). The party leaves London on Good Friday morning and returns on the Tuesday following, or Monday if desired.

THE WEEK IN PARLIAMENT

WESTMINSTER, Wednesday.

The Minister of Health has announced that he will bring in the London Squares Bill this Session, but he could not yet state the date.

Sir Kingsley Wood asked for typical instances of the rents which are now being paid in town and country of houses erected by local authorities under the Housing (Financial Provisions) Act, 1924.

Mr. Greenwood said particulars of rents charged for houses provided under the Housing Act of 1924 were not furnished to his Department. He could say, however, that rents round about 7s. or 8s. per week, exclusive of rates, seemed to be fairly common in town areas. Rents charged in country areas varied considerably, and no general figures could be given.

Direct Labour.

Mr. Greenwood, answering a further question, said that the average superficial area of "A" type houses included in contracts let by or in direct labour schemes of local authorities in England and Wales during January, 1930, was 749 sq. ft., and during February, 1930, 772 sq. ft.

Imported Granite.

A table has been submitted by the President of the Board of Trade as follows, showing quantities of imported granite :—

Total Imports into Great Britain and Northern Ireland registered as consigned from :—

Year.	Germany. Quantities. Tons.	Germany. Declared Values. £	Czechoslovakia. Quantities. Tons.	Czechoslovakia. Declared Values. £
1924 ...	2,326	63,897	255	7,534
1925 ...	2,163	65,867	600	18,586
1926 ...	2,047	69,134	1,265	41,158
1927 ...	2,774	87,720	1,080	31,343
1928 ...	3,446	102,960	1,454	39,870
1929 ...	3,161	109,483	1,258	42,116

Note.—The figures for 1929 are provisional.

A Rehousing Scheme.

Miss Rathbone asked the Minister of Health whether he could state the total estimated cost per house and deficit per house incurred on the South-hill-road housing scheme and Melrose-road housing scheme carried out by the Liverpool Corporation.

Miss Susan Lawrence replied that the South-hill-road and Melrose-road schemes were rehousing schemes to provide for displaced persons from the Burlington-street clearance area. Final accounts for these schemes had not been received, but the Liverpool Corporation had recently furnished estimates as follow :—

South-hill-road rehousing site :—Total estimated cost, £131,653; estimated cost per tenement, £565; estimated deficit per tenement, £23 15s.

Melrose-road rehousing site :—Total estimated cost, £181,605; estimated cost per tenement, £698; estimated deficit per tenement, £25 10s.

Washington Embassy.

Sir Frederick Hall asked the First Commissioner of Works if he would state the date of the departure and proposed return of the permanent secretary of his department to inspect the standard of furnishing at the new British Embassy at Washington; and would be issue, on the return of the permanent secretary, in a White Paper the decisions arrived at by the permanent secretary for the future guidance of the technical officers of the department in similar cases.

Mr. Lansbury: The permanent secretary left for Washington on March 26. He is due to return on May 1. The answer to the second part of the question is—No.

THE BUILDING TRADE

USE AND ABUSE OF BUILDING MATERIALS

By A. M. GILES, B.Sc., A.I.Struct.E., A.M.I.E.E.

XIV.—LIMES, PLASTERS AND CEMENTS.

It would be quite impossible to emphasise too strongly the importance of these materials to the building industry. In fact, the more one makes a study of them in proper practical use, the more one becomes impressed by their necessity to the builder. One has only to mention "mortar" to indicate to what extent a building depends upon their actual existence. It is obvious that they have been adapted from natural products before they have been adopted or incorporated in any structural work. The one great feature or property that is common to them all is that of binding together particles of other substances.

Another point that stands out clearly is that it is not possible to examine them as one would a stone, or a brick, or even a piece of timber, because they are usually supplied in the form of a powder. This seems then to render it all the more necessary for the workers in them to be thoroughly familiar with recognised methods of deciding upon their suitability as well as the required attributes for the work in hand.

Lime.—In connection with lime there are many details that can be mentioned and, before attempting to discuss a few of them more fully, it should certainly be stated that all limes contain as one of their important constituents, the oxide of calcium (CaO), and further, that the addition of water to them causes them to slake with the evolution of much heat.

There are two main divisions of the limes, viz., the non-hydraulic and the hydraulic. The difference between them is that the hydraulic variety will set in damp places or even under water, while the non-hydraulic will not do so. The latter variety, viz., the non-hydraulic, may be again divided into those known as "fat" limes, and "lean" limes and "magnesian or dolomitic" limes, while those that are hydraulic may be known as feebly or poorly, ordinarily or moderately, strongly or eminently hydraulic. These latter terms, as may be imagined, depend upon (a) the time of setting, and (b) their final hardness or strength.

Non-Hydraulic Limes.—Stones are found, called limestones, which are usually quarried in the form of chalk. Chalk is the carbonate of lime ($CaCO_3$), and although these stones are seldom, if ever, found as pure chalk, there are those which have a very high percentage of it. Analysis shows that the impurities, so far as the actual carbonate of chalk is concerned, are alumina, magnesia, silica, and oxide of iron. Though the percentage of impurities is comparatively small, nevertheless, it is the amount of these impurities which decides the quality of the lime. For example, from the limestones that contain no more than five or six per cent. of impurities we get "rich" or "fat" or "air" lime; while should the impurities be as much as 25 or 30 per cent., they are called "poor" or "lean" limes.

The main difference between the latter and "fat" limes is that, whereas the "fat" limes slake (*i.e.* combine with water) very quickly with an enormous development of heat and with a very large expansion, the lean limes take much longer to slake, and do not increase in volume to the same extent. It has been suggested that one quick way of deciding between the fat and the lean lime is to note carefully the process of slaking. Again it has also been suggested that fat limes should never be used for making mortar but, because they slake and expand so thoroughly, should be reserved for plaster. The formation of plaster "blisters," which are said to be due to delayed slaking, would thus be avoided.

There is another point about which, it is suggested, there is a little confusion, viz., the question of setting. Fat limes do not set but harden as they dry, with the probable formation of a thin film of lime carbonate on their surface, due, it is said, to the combination of the lime with the carbon dioxide (CO_2) present in the atmosphere. Real setting takes place in the case of the hydraulic limes where, because of the useful impurities they contain, they have the power to set without any external assistance.

Magnesian limes are those which contain a comparatively large proportion of magnesia (MgO), and they are so called because of the magnesium carbonate ($MgCO_3$) contained in the original limestone. As mentioned in a previous article, limestones, containing a fair proportion of magnesium as well as calcium carbonate, are called dolomites and, consequently, the magnesian lime obtained from them is also called dolomitic lime.

Magnesian or dolomitic lime slakes very much more slowly than fat limes and the increase in volume during the process is also very much less. The decomposition of the magnesium carbonate, caused during the kiln process, is similar to that of the calcium carbonate, *i.e.*, carbon dioxide gas (CO_2), is driven off and magnesia (MgO) or magnesian lime is left. It has been stated by Eckel that though at first the magnesian limes, when mixed with sand, do not form a mortar as strong as when fat limes are used, nevertheless, the strength increases with age until, at the end of a year, the mortar is rather more than twice as strong. Another suggestion that finds a good deal of support is that when making mortar with poor or lean limes a smaller proportion of sand is required. This is undoubtedly accounted for by the extra quantity of impurities, such as those mentioned above, contained in them.

Hydraulic Limes.—Certain limes have been called hydraulic because of the property possessed by them of being able to set under water. It is interesting to note that this attribute was applied to a lime which was used in building the Eddystone Lighthouse. A lime, other than lime or quicklime which would not set under water, had to be discovered, and, after much experimental work, it was found that a limestone containing a small amount of clay produced a lime which, after the usual kiln processes, would slake by the addition of water as well as harden under water.

Though the name has stuck to lime of this nature, it is now known that it will also set out of water, in fact, as distinct from the non-hydraulic limes, we sometimes get the definition of a hydraulic lime as one that will set without the aid of any outside agencies. It is useful, therefore, in constructional work, particularly when thick walls are being built, since it will set as well inside as outside.

Although authorities are not actually agreed upon the actual composition of the impurities that are present, it is known that they consist, after the calcining, or burning process, of the compounds of silica and alumina with the lime, such as calcium silicate and calcium aluminate, both of which are rather complex chemical compounds. The one important point about them, however, is that the actual amounts present in a lime decide whether it shall be classified as (a) feebly or poorly, (b) moderately or ordinarily, and (c) strongly or eminently hydraulic. There is no sharp dividing line between these different classes and authorities differ to some extent upon what the percentage impurity shall be for any particular class, though it is now known that the "hydraulicity," as it is sometimes called, does increase with an increased percentage. Feebly or poorly hydraulic limes, which are known to contain the smallest percentage of useful impurities, can have their hydraulicity artificially increased by the addition of a small quantity of calcium sulphate. Because this sulphate of lime, or calcium sulphate, was originally obtained from the mineral selenite, the feebly hydraulic limes, after having been treated with it, were called selenitic limes.

Though other methods of introducing this compound are now known and used the important point is that, by its addition, the strength of feebly hydraulic limes is considerably increased. Particularly is this noticed when sand is mixed with it to make mortar. For example, it has been shown that a mortar composed of five parts of sand to one of treated lime will have approximately the same strength as one composed of three parts of sand to one part of the untreated lime.

Eminently or strongly hydraulic limes are those which contain a comparatively large percentage of silicates and aluminates combined with the carbonate of calcium. The percentage may be anywhere between 25 and 40, in fact, after the lime has been burned it is said that these limes contain about 60 to 75 per cent. of lime or quicklime, *i.e.*, calcium oxide (CaO) combined in a small degree with alumina and silica. The chief feature about the use of these eminently hydraulic limes is that too much water must not be added during the slaking process, otherwise it would harden too quickly. One authority says that it sets stone hard. During its setting it is said that crystals of hydrated calcium aluminate and calcium silicate are formed along with the absorption of carbonic acid gas by the surplus free lime.

Hydrated Lime.—It is now possible to buy hydrated lime. The main point about it is that it has already been slaked and, consequently, there would be very little waste in its use. It is also said that it can be kept for a much longer time than ordinary lime without losing its usefulness. It is sold in the form of a very fine, white powder which has been obtained by slaking, with the smallest quantity of water, finely crushed quicklime. When made up, it is claimed that it possesses the properties of soundness and hardness which are quite comparable with those of other plasters and cements.

Though the methods of quarrying limestone as well as the kiln operations for obtaining the lime or quicklime from the limestone are in themselves of great interest, it is not proposed to discuss them here. There is one outstanding point, however. It is generally admitted that lime obtained from large kilns is much better than that obtained from smaller kilns since, in the latter case, there does not appear to be the same control over the temperature conditions which generally means either under- or over-burnt products.

About the operations of slaking, mixing with sand, and the final setting of lime in its various uses there are many important points.

Slaking.—The molecular weight of lime is 56, of water 18, so that if 18 parts by weight of water be added to 56 parts by weight of pure quicklime, the result is 74 parts by weight of calcium hydrate, $Ca(OH)_2$. This is the meaning of slaking of lime. It is accompanied by the evolution of great heat as well as enormous expansion—to three times the original mixture according to one authority.

Because of this great expansion it is important that slaking should be completely carried out both when the lime is to be used as plaster and as mortar, otherwise subsequent slaking and expansion is liable

to cause imperfections in the finished work. It is said that this "tempering" process, as it is called, should be a prolonged one—a week to a month—or even longer if the lime be very pure. It is often left with a covering of sand over it. If it is to be left some time before use it should be stored in barrels or other fairly air-tight containers so as to prevent the carbon dioxide in the atmosphere combining with it to form the lime carbonate, though it is interesting to note that some manufacturers suggest that, by allowing the carbon dioxide to get at it, a coating of the carbonate forms on the outside and protects the inside lime. It is only fair to say that because of these two or three important points that have to be observed in the care and slaking of lime, the use of the hydrated variety is gradually increasing in demand.

BUILDING RESEARCH STATION.

LIBRARY AND INTELLIGENCE SERVICE.

We have received from Dr. R. E. Stradling a note on the work of the Library and Intelligence Service of the Building Research Station, from which we take the following extracts :—

There has been set up at the Building Research Station of the Department of Scientific and Industrial Research an intelligence service, one of whose primary functions is to collect and disseminate all information available regarding building materials and method of construction. Very many of the difficulties which confront the building industry, whether they concern the durability of materials, the design of structures, or the comfort and health of the occupier, have been dealt with in some way or other in technical literature. It requires, indeed, the co-operation of a team of workers, and an organisation to collect and co-ordinate the data and to maintain the supply of information that should be at the ready service of the industry. Such an organisation has been set up at the Building Research Station. This organisation is devoted to the provision for the building industry of a continuous stream of information collected from all sources throughout the world.

Four years ago the library and intelligence service of the Building Research Station began to compile for use within the station, a monthly summary of current literature, which embodied (in the form of short paragraphs) the substance of all the more important papers perused during the preceding month. The circulation of this summary, limited at first to the Station and a few Government Departments, gradually increased as its existence became known to scientific institutions and trade associations at home and abroad, and it was eventually decided to place it on sale to the public. In January, 1928, the first number of "Building Science Extracts" was published, with the financial assistance of the Institute of Builders. In the first two years of its life the new periodical has achieved a wide distribution at home, in the Empire overseas, and in many foreign countries.*

Some idea of the scope of this abstract journal may be gained from the following figures :—The first volume (1928) contained 1,612 abstracts, 168 references to new books and 513 to patents. The abstracts and references were drawn from 123 different scientific and technical periodicals. The second volume (1929) contained 1,787 abstracts, 131 book notices and references to 726 patents. In the latter volume 89 items related to building stone, its uses and its decay in structures, 487 to the raw materials, manufacture and properties of all the materials of construction made of clay and also to glass. Limes, plasters and such products as sand-lime, brick, or plaster blocks, etc., were represented by 146 items, while 562 had specific reference to concrete, its preparation, use and properties, and to the cements and aggregates of which it is composed. The sections on metals contained 151 items. The organic building materials, wood, asphalt, building papers and the like found mention in 188 items, and paint and varnish in 62. There were 87 references to the properties of materials in general and to the technique of testing. As regards structures, 135 items dealt with design and theory, 434 with the practical aspect of building construction, and 177 with the housing problem and with heating, lighting ventilation and other problems connected with the efficiency of the building from the point of view of the user. Finally, 128 were concerned with the design and construction of structures for special purposes. Each volume contains an index compiled with the intention of furnishing a guide, not only to the contents of the abstracts themselves, but also to the information contained in the sources from which they were prepared.

* "Building Science Abstracts" is published monthly by H.M. Stationery Office, price 9d., a copy or 10s. (post free) per annum.

CERTIFIED CARPENTERS' DINNER

The annual dinner of the Incorporated British Institute of Certified Carpenters was held at the Carpenters' Hall, Throgmorton Avenue, E.C., on Saturday, March 29, under the chairmanship of Mr. Gayford D. Minn (Master of the Worshipful Company of Carpenters).

After the toast of the King had been honoured, Mr. J. Hutton Freeman (Clerk of the Worshipful Company of Carpenters), proposing the toast of "The Institute," said he desired to tender his thanks to the Institute for the great honour they had done him in electing him one of their vice-presidents. The Institute was to be congratulated on having a total membership of over 760, and it was interesting to learn that 22 new members had been enrolled this year. He considered that the Certified Carpenters had done a tremendous amount towards the improvement of their craft; not only during their apprenticeship had they learned the skill of the carpenter, but they had learned to exercise care and economy in the use of their materials. In addition, the Institute had done a great deal to help the craftsmen by means of its technical lectures. He was sure that everyone present deplored the death of their old friend, Mr. Wilson, who was always ready to lend his wide experience and his great knowledge of the building trade for the good of the Institute and help it in any way he could. He was also glad to see that they had with them for the first time for a number of years the President of the Institute. Mr. Adams Smith hardly needed any introduction to any of them; he congratulated them on having secured such a president.

Mr. F. Adams Smith, F.R.I.B.A., responding, said they had done him a very great honour in electing him as their president. He considered that the Institute was an organisation of a special character, because those who were fortunate enough to be members of it had been thoroughly trained in the technical work of the craft. As carpenters, they were brought into contact with all kinds of timbers in the course of their daily work. In this country we did not grow many timbers, and therefore we were obliged to go abroad for a great deal of what we required. As representing the Carpenters' Company, he was a member of the committee which met at the Imperial Institute on the question of the Dominions and their timbers, and it was interesting to observe the variety of timbers that were grown in the Colonies and Dominions, which were never used in the Mother Country. There was, unfortunately, no published report of the work of the committee to which he was referring, but if any of the members cared to go down to the Imperial Institute, they would find there a mass of information on the subject, and at the same time they would be able to see the beautiful examples of timbers used in building.

Mr. George M. Ayres, proposing the toast of "The Worshipful Company of Carpenters," paid a tribute to the kindness of the Worshipful Company of Carpenters in placing facilities at their disposal for meeting, etc.

Lt.-Col. A. C. Preston, in responding, said the Carpenters' Company had for years endeavoured to do everything in its power to improve the system of education of those engaged in the craft. A great deal of hard work had been done by the Company in keeping up the standard of scholastic education. The Company was originally brought into existence for the purpose of promoting good fellowship and charity amongst the members of the craft, and it was interesting to note that within a few years the Company would be celebrating the 600th anniversary of its existence. The Certified Institute might rest assured that in the future, as in the past, the Worshipful Company would do everything in its power to further the interests of the craft.

At this stage in the proceedings the chairman, on behalf of the members of the Institute, presented to Mr. George M. Ayres a wireless set as a token of their regard and in recognition of the great services he had rendered to the Institute during his membership. Mrs. Ayres was also presented with a patent pen and inkstand. Mr. and Mrs. Ayres suitably acknowledged the gifts.

The toast of "Our Guests" was proposed by Mr. E. E. Brockwell in an apt speech.

Lt.-Col. W. French, D.S.O., M.C., responding, said the City of London and Guilds Institute had recently been engaged in framing a new syllabus for carpentry and joinery, and he was glad to say that this had been adopted by the Institution, and would be brought into force next session.

The toast of "The Chairman" was proposed by Mr. W. T. Sweet, and the Chairman responded.

NEW CINEMAS

Cardiff.—Tenders are invited for the rebuilding of the Splott Cinema, Cardiff, for Messrs. The Splott (Cardiff) Cinema Co., Ltd. Applications for bills of quantities are to reach the company, 15, Windsor-place, Cardiff, on or before April 5, accompanied by a deposit of £3 3s., which will be returned on receipt of a bona-fide tender.

Colchester.—Mr. Cecil Masey, F.R.I.B.A., of 15, Caroline-street, W.C.1, has been appointed architect for the large new cinema to be built at Crouch-street, Colchester. Plans have been conditionally approved for a new 1,500 seater, to be opened before Christmas. David Ager, the owner of the Headgate Cinema, Colchester, Alec Thompson and A. D. Ager are associated with the project. The cinema, to be called "The Regal," has been designed in Spanish-American style.

Elephant and Castle.—As announced in our issue for February 7, the Elephant and Castle Theatre is to be completely rebuilt. Plans will be prepared by Mr. S. Gordon Jeeves, F.R.I.B.A., of 16, Hanover-square, W.1, in conjunction with Mr. W. R. Glen, staff architect to the Associated British Cinemas, Ltd., of Heddon House, Regent-street, W.1.

Hammersmith.—The Provincial Cinematograph Theatres, Ltd., and Gaumont-British Picture Corporation, Ltd., 123, Regent-street, W.1, have taken over a site in Queen-street, Hammersmith Broadway, W.6, from the Davis Theatre (Hammersmith), Ltd., and propose to erect a 3,500-capacity cinema. The chief architect to the company is Mr. W. E. Trent, F.S.I., but this cinema is being planned by Mr. Robert Cromie, F.R.I.B.A., 35, Baker-street, W.1. No building contract has yet been let.

Tooting.—As announced in our issue for November 29, a cinema is to be erected in Mitcham-road. This is for the Bernstein Theatres, Ltd., 197, Wardour-street, W.1, and will hold nearly 4,000. The architect is Mr. Cecil Masey, F.R.I.B.A., 15, Caroline-street, W.C.1. No quantities have yet been prepared and no contract has been let.

RESEARCH IN THE BUILDING INDUSTRIES OF THE U.S.A.

By F. M. LEA, M.Sc., A.I.C. (of the Building Research Station).

Industrial research is a theme which is often before us in connection with the various branches of the chemical and engineering industries, but its applications in the building industry are more often apt to be overlooked or disregarded. An account of the research activities of some of the branches of the building industry in the U.S.A. may, therefore, be of interest. This sketch is based on observations in the U.S.A. on some of the industries concerned with the manufacture of building materials, and, in particular, cement. In some degree, however, the impressions recorded are applicable to a wider field.

A characteristic of the people of the U.S.A. which has been commented on many times is their readiness to accept new methods and products, and, in the material world, to try new ideas. It is expressed in a readiness to adopt different methods, whatever their source, and in a willingness to give that which is new at least a trial. In an age of rapid change, such characteristic features acquire increased value, and their origin, whether traceable to environment or education, is of importance. They facilitate changes in industrial practice, and render the supersession of traditional methods by those based on systems of technical control a simpler matter than in England. This outlook is, in turn, accompanied by a growing reliance by manufacturers on industrial research as a necessity for future progress, or even existence, and on technical control as the inevitable successor to the empirical methods evolved during an earlier age.

Another feature which stimulates co-operative industrial research in the U.S.A. is the growing appreciation that it is the good name of a product as a whole which is of prime importance to the prosperity of an industry. In other words, it will pay an industry to create such common knowledge as will ensure that its poorest products do not fall below a definite minimum of quality. As an example, the reputation of a cement concrete block, as an article, is a factor of much importance when it has to be sold in competition with other building units. The flourishing condition of the sand-lime brick industry in the U.S.A., and the comparative unpopularity of the brick in England, are not to be dissociated from the different standing which that brick as a whole enjoys in the two countries. It is this appreciation of the great importance of the good name of a product, apart from the varying reputations of its manufacturers, that is one factor influencing trade associations to undertake co-operative research. One of the main branches of the building industry in the U.S.A. is to-day suffering from the uneven quality of its product some ten or twenty years ago.

Research Organisations of Some Manufacturing Firms.

The research activities to be mentioned here are confined to those of firms engaged in the cement industry. This industry in the U.S.A. is made up of a limited number of firms with numerous plants and large outputs, and of a large number of smaller firms operating one or a very few plants, each. Several of the largest firms maintain research organisations of their own. One of these companies, for example, has a research staff of about a dozen working in laboratories built and equipped specifically for the purpose of research. Another company not only maintains a group of six research Fellows at the Mellon Institute of Industrial Research and a group of three research Associates at the U.S. Government Bureau of Standards, but also has other internal research activities. Certain of the smaller companies are also carrying out some investigatonal work.

At the present time the production capacity of cement mills in U.S.A. has been estimated to be about 30 per cent. above requirements, and, as a result, the struggle for markets is keen. Exports are at present relatively small, and not increasing. In the face of this situation many of the cement producers are vigorously prosecuting investigations, in the belief, founded on the previous experience of their own and other industries, that such a policy will bring its economic reward.

Research in Industrial Research Institutions and by Trade Associations.

The Mellon Institute of Industrial Research attached to the University of Pittsburgh is a research institution devoted to industry. Its main purpose is to assist in and extend the utilisation of scientific methods in the development and control of the means of production, and to increase co-operation between science and industry. The Institute is provided with a permanent building and equipment for research. Any manufacturer, or association of manufacturers, having a suitable problem for investigation may, with the Institute's approval, become the donor of an Industrial Fellowship. This fellowship may be made up of one or more investigators, who work on the problems assigned by the donor, under the general direction of the executive staff of the Institute. The results of the researches become the property of the donor, as also do any patents arising from them. The donor is required to provide a sum sufficient to cover the annual cost of the fellowship, including salaries of the investigators, special apparatus, and general operating cost. The annual cost of such a fellowship to the donor is about £1,000 for each investigator needed.

The Mellon Institute itself derives no financial benefit from the investigations conducted under its auspices. At present there are in operation at the Institute some 60 fellowships with over 140 Fellows, whilst there is stated to be a waiting list of some 70 firms desirous of establishing fellowships for which space is not available. The total sums paid to the Institute in the last year by the donors of fellowships amounted to over £160,000. As an example of a few of the subjects, connected with the building industry, in which fellowships have been established by individual firms or trade associations, there may be mentioned Portland cement, vitrified tile, vitrified sewer pipe, roofing, slag utilisation, and rock products. Another institution, to be run on somewhat similar lines, but devoted to the metallurgical industries, has recently been set up at Colombo, Ohio, under the name of the Battelle Foundation.

A trade association which requires special notice, both on acount of its size and its achievements, is that maintained by the cement manufacturers of the U.S.A. The membership of the Portland Cement Association includes over 80 per cent. of all cement manufacturers in U.S.A. and Canada, and covers a rather larger proportion of the output. The Association, which was founded in 1902, now has over 500 employees, and its total cost may be estimated at not less than £300,000 per annum, apart from extra levies raised for special work. It is financed by a levy on its members proportional to their output. District offices and engineers are maintained in thirty-two of the chief construction centres in the U.S.A. and Canada for the promotion of the use of concrete, and the assistance and education of those engaged in concrete construction. The association itself does no selling, and exists only to promote the improved and increased use of cement. Its activities are based on the belief that anything that can be done to improve the general quality of concrete construction will bring its return in an increased demand for cement.

To achieve its aims the creation of knowledge, as well as its dissemination, is necessary, and hence at its head office in Chicago the association maintains a large and well-equipped laboratory for research on concrete. This research laboratory dates back to 1916, when the Portland Cement Association and the Lewis Institute established the Structural Materials Research Laboratory. In 1926 the association built their present headquarters, and the research laboratory was transferred to it. The technical staff of this laboratory now numbers about 20. Results of researches which are capable of immediate application are disseminated by the association through its district engineers and offices. The best-known achievement of this laboratory is the water-cement ratio law governing the strength of concrete, a generalisation which has now won world-wide recognition. In the U.S.A. it is becoming the basis of new methods for the proportioning of concrete mixes, and its utilisation in this way is backed by a strong educational campaign conducted by the association through its touring lecturers.

In addition to this research laboratory interested primarily in the use of cement, the Portland Cement Association has for the last five years maintained a group of six research Associates at the Bureau of Standards, studying the fundamental properties of cement.

Industrial Research in Government Laboratories.

The Bureau of Standards, Washington, D.C., is a United States Government institution, responsible primarily for the custody and upkeep of the national standards, and for determination of the basic constants required in industry and science. This in its ultimate extension involves the bureau in a large amount of scientific research. Grafted on to this organisation there is also an industrial research group, which has now attained large dimensions, and the present total staff of the Bureau of Standards is close to 1,000. This entire organisation is paralleled in Great Britain by the separate research laboratories grouped under the Department of Scientific and Industrial Research, such as the National Physical Laboratory, the Chemical Research Laboratory, and the Building Research Station. There are not in the United States any industrial research organisations similar to the Trade Research Associations established here under the auspices of, and with financial aid from, the Department of Scientific and Industrial Research. Their place in the U.S.A. is taken only in part by industrial research groups at the Bureau of Standards, the Mellon Institute, and elsewhere. It is probable, therefore, that in the case of many of the industries in England which have established research associations, the extent of their work may equal or surpass that of corresponding industries in the U.S.A. There are, however, no research associations connected with the cement, lime, gypsum, brick, terra cotta or tile industries in England, and in this characteristic the British building industry is marked out from the great majority of our industries.

The Bureau of Standards is organised in a number of divisions. The division most closely connected with the building industries is the Clay and Silicate Products division; this is divided into sections dealing with white ware, glass, refractories, enamels, heavy clay products, cement and concrete, masonry construction, lime and gypsum, and stone. Questions relating to structures fall largely to another division. In Great Britain these activities are largely, but not entirely, covered by the Building Research Station.

It is one of the duties of all section heads in the industrial division of the Bureau of Standards to keep in close touch with firms and trade associations in their own industry. This is achieved by visits to firms and by attendance at annual meetings of trade associations and of technological societies. The close connection obtained between the industrial sections of the Bureau of Standards and their various industries is a feature the importance of which cannot be too much stressed, and which has striking results. It

stimulates manufacturers to seek the help of the Bureau in the solution of their problems, to provide the necessary funds for needed research, and in part to recruit their technical staffs from the staff of the Bureau.

One of the most useful features of the Bureau of Standards is its system of research associateships, which was formed to link the Bureau more effectively with the industries it exists to serve. Industries collectively, or individual firms, are permitted to establish at the Bureau a research associateship for the purpose of carrying out investigations on problems of a general nature arising in their industry. The funds necessary to cover the salaries and special costs are provided by the industrial group, while the Bureau provides laboratory space and general facilities. The researches to be conducted must be approved by the Director of the Bureau, and the work is carried out under the supervision of the head of the division to which the research Associates are attached. Results of investigations are communicated immediately to the industrial group concerned, but the Bureau reserves control over their publication. Any patents taken out as a result of the work are required to be dedicated to the free use of the public; in this the custom differs entirely from that at an industrial research institution like the Mellon Institute.

There are at present over 80 research Associates in the Bureau, maintained by some 50 organisations. The largest group is that of the Portland Cement Association Fellowship, consisting of six Associates. Amongst the other groups are those maintained by the American Face Brick Association, the Common Brick Manufacturers' Association, The National Terra Cotta Society, and the Gypsum Institute.

Simplified Practice and Commercial Standards.

One of the modern tendencies in industry in the U.S.A. has been towards the elimination of unnecessary sizes and varieties of products in order to obtain increased economy and efficiency in production. An organisation known as the "Commercial Standards Group" has been set up under the Bureau of Standards in order to assist industries in attaining this end. The work of this group, in co-operation with industry, includes the simplification of commodity sizes and dimensions, the establishment of definite grades and qualities, then their publication as Commercial Standards, and finally the compilation of lists of firms manufacturing products according to such specifications. Its work is aided by a committee, which meets quarterly, and on which industrial interests are represented.

The Bureau of Standards will only take action on specific request from manufacturers or users for the establishment of a commercial standard. Following such request, a preliminary canvass is made to determine the amount of co-operation which may be expected from producers, distributors and consumers, and the general desirability of establishing such a commercial standard. If there is ample prospect of full co-operation, a conference of those interested is called, and a committee appointed to draw up recommendations limiting grades, qualities and sizes. These recommendations may be based on existing technical standards where such exist, but clauses dealing with sizes and varieties are added. Before publication as a commercial standard, these recommendations must be approved by a general conference of the industry, and finally accepted in writing by firms representing a satisfactory majority of the total volume of production of the particular commodity. Adherence to such commercial standards is entirely voluntary.

The establishment of a code of simplified practice is not dependent upon agreement on a commercial standard, and may be brought about by voluntary agreement among producers to eliminate sizes of articles for which there is little demand, and to confine stocks to a definite series of sizes. Work along somewhat similar lines has, of course, been done in Great Britain by the British Engineering Standards Association.

Necessity for Technical Control and Research in the Building Industry in Great Britain.

We may now consider briefly the methods of application of industrial research to the building industries of this country, to find what can be learnt from American practice in this respect, and try to see what changes in the present practice and outlook are demanded. One feature of industrial research in the U.S.A. requires particular emphasis in this connection. It is, in comparison with Great Britain, the more open attitude to research of firms which cannot be classed in either the chemical or engineering industries, but whose processes of manufacture are such as to require some technical control, and are capable of improvement by physical and chemical means. Accompanying this attitude to research is found the increasing employment by such firms of adequately trained technical staffs controlling production.

Industrial research may perhaps be divided into two stages. In the first stage the object will be to examine the various factors which are concerned in the methods of manufacture of the industry, such as its raw materials and the processes they undergo, its final products and the qualities desired in them. It will be necessary not only to examine these individual factors, but also to trace out the relations between them. The experience and knowledge of the industry will help in this, but it will be necessary to extend that knowledge, and to replace the qualitative information it affords by definite quantitative relationships. In the second stage the picture of the industry which is thus obtained becomes the guide, and from it there can be drawn conclusions as to the direction in which improvements of existing methods and materials are to be looked for, and some indication of how they are to be sought. The picture also defines the field where knowledge is entirely lacking, and where the entirely new is to be found.

The research work in these fields requires the investigator trained in the methods of scientific research and engaged in the research laboratory of an industrial firm, a co-operative association, or of Government. In outlining the scope of the problems, however, and in drawing the initial picture of the industry, the practical experience and knowledge of the individual producer is indispensable. Finally, the application of results to industrial practice requires and demands the existence in the industry of a technical staff appreciative of the changes necessary and of the results to be expected from them.

Industrial research, therefore, requires not merely the existence of laboratories and investigators, and the present knowledge and experience of industry. It requires, also, for its benefits to be realised by the industry it is designed to serve, the presence in that industry of a technically trained staff and some technical control over its processes of manufacture.

Government research as that at the Building Research Station can assist the producers in the traditional industries by fundamental work on their raw materials and processes, establishing in general the methods by which improvements are to be obtained. Such research requires the assistance of industry in order that the problems with which the industry is faced may be appreciated in their correct proportions and their relative economic importance be clear. Its application to specific cases must usually lie with the individual producer. For it to be of value there must be a willingness on the part of the producer to try new methods, and an appreciation that uniform quality of product, the *sine qua non* of efficient utilisation, is rarely attainable by traditional means, however good they may appear and however long their period of existence.

The immediate problem in many cases is education. The creation of new knowledge in at least many of the building industries will be without effect unless it is met by a change of attitude on the part of the producer. The assembly of an organised body of knowledge relating to an industry is non-productive labour until those engaged in the industry are willing to benefit by it, and have at their command the technical knowledge which will enable them to do so. Once the manufacturer can be persuaded of the advantages to be gained from the production by controlled methods of materials of uniform quality, and that traditional methods rarely achieve this, one of the present obstacles to progress will have been removed.

The necessity for education is not limited to the producers; it is, at least, as important for the users. Many existing building specifications contain much that is erroneous or useless, together with restrictions which not infrequently fail to give the safeguards they were designed to afford. The perpetuation of such errors from one specification to another seems to be a normal condition. In many cases existing knowledge is now sufficient to permit of at least the elimination of such erroneous or useless clauses, though it may not permit of their replacement. In the constructional industry the improvements that have been effected in the quality of cement during the last twenty-five years are often wasted by the methods of concreting employed.

Proper concrete control is often not operative, even on works of considerable magnitude. Adequate control methods in concrete work must be designed and enforced by the architect and engineer, and will not be attained until more consideration and time is given by them to the design of concrete mixes, and less reliance placed on customary methods of proportioning, which, as at present applied, are often characterised more by their misuse than their value. It is possible in the U.S.A. to purchase concrete aggregates, such as sand, gravel, crushed rock and slag graded to given sizes, and a considerable number of different sizes of material are obtainable. In Great Britain the size range and variety of such aggregates is much more limited, though their value for concrete-making is clear and the organisation of their production simple. It unfortunately cannot be said that their absence is due to a general practice of contractors separating and grading their aggregates after purchase. What is lacking is a standard of technical education amongst the building industry that would lead to a demand for such products.

It may be useful to summarise the means by which the building industries in England can carry out research work relating to their own needs. Individual firms may establish their own research laboratories, an association of firms may form their own trade research association with its own trade laboratories, or firms may co-operate as individuals or groups with the Building Research Station. Each method has its own limitations and advantages. If really adequate support can be guaranteed over a fairly long period of years, the second method has much to commend it; the first, except on a small scale, will usually be limited to firms whose resources are considerable; the third method is at present being employed to a too limited extent, and could advantageously be extended in the cases where the nature of the problems involved, or the extent of the funds available, renders the formation of a trade research association undesirable or impracticable. Finally, much emphasis must be laid on the importance of adequate contact between industries and a Government research laboratory, which, like the Building Research Station, is devoted to work on the general problems of an industry.

In conclusion, an appeal is made to the building industry for a thoughtful consideration of their future development and prospects in the face of a present-day world which bears as one of its most marked characteristics the application of science to industrial methods. "C'est l'imagination qui gouverne le genre humain," said Napoleon. May it not be for lack of imagination that those of our ancient industries which are still based on immemorial custom fail to keep pace with a changing world?

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *office not later than Tuesday evening.*

Addiscombe.—ADDITIONS.—Lloyds Bank propose altering and making additions to their premises at 212, Addiscombe-road. The plans by their own architectural department, 42-44, Gracechurch-street, E.C.4.

Bermondsey.—SUB-STATION.—Messrs. Bevingtons and Sons, Neckinger Mills, Abbey-street, S.E.16, are to erect a sub-station for the London Electric Supply Corporation, Ltd., at Neckinger Mills, south side of Abbey-street.

Brentford.—SCHOOL.—The Brentford and Chiswick E.C. have accepted the tender of Messrs. Stanley and Son, 49, Fillerbrook-road, Leytonstone, E., at £13,570, for new junior mixed and infants' school in Lionel-road. The plans by the committee's architect, Mr. E. Willis, Town Hall.

Brondesbury Park.—BUILDING.—Large private residence is being erected in Christchurch-avenue for Mr. A. L. Greenburg, by Messrs. W. H. T. Kelland and Sons, Ltd., builders, Stoke Newington, N. Metal casements and leadlight glazing by the Crittall Manufacturing Co., Ltd., of High Holborn, heating installation by Messrs. Baynes and Co., Highbury. Further sub-contracts have not yet been placed. Messrs. A. S. R. Ley and Son, F. & A.R.I.B.A., 214, Bishopsgate, E.C., architects.

Cannon-street.—REBUILDING.—A contract has been placed with Messrs. F. Troy and Co., Ltd., 19, Finchley-road, St. John's Wood, N.W.6, in connection with the proposed reconstruction, after fire, of the branch offices of the L.M. and S. Rly. Co.

Chelsea.—BUILDING. — Messrs. Buckland and Haywood, of 10, Staple Inn, W.C.1, have made an application to the Chelsea B.C. for consent to the erection of a building upon a site abutting on Wellington-street, Manor-street, Manor-gardens and Flood-street, S.W.

Chelsea.—FLATS.—Messrs. W. J. Marston and Co., builders, have made an application to the B.C. for erection of garages and flats over at the rear of 13, Park-walk.

Chiswick.—ADDITIONS.—Plans have been prepared by Messrs. Hudson-Essex Motors, Ltd., for additions to works in the Great West-road.

City-road.—EXTENSIONS.—Extensions are to be made to the Royal London Ophthalmic Hospital. Plans have been prepared by Messrs. Campbell, Jones, Son and Smithers, 9, Dowgate-hill, E.C.4.

Covent-garden.—BUILDING.—Mr. A. Plant, Abbey House, Victoria-street, London, S.W.1, has acquired the site of the old National Sporting Club buildings in King-street, W.C.2.

Croydon.—ALTERATIONS.—Messrs. Truett and Steel, Ltd., High-street, Thornton Heath, have obtained the contract for alterations to be made to 48-50, North End, according to plans prepared by Mr. E. C. Roe, 406, Brixton-road, S.W.9.

Croydon.—SHOWROOMS AND GARAGES.—Plans are under consideration for the erection of motor showrooms and 60 lock-up garages in Coombe-road. The architect is Mr. L. H. Harrington, F.R.I.B.A., Tudor Cottage, Selsdon-road, South Croydon.

Croydon.—OFFICES.—The "Croydon Times" is to occupy new offices to be erected on a site at 104, High-street. The architect is Major F. W. Rees, L.R.I.B.A., of Messrs. F. W. Rees and Partners, 44, Park-lane, Croydon.

Croydon.—ICE RINK.—To accommodate 1,000 skaters is to be constructed on a site next to the Southern Foundries in Stafford-road, Waddon. The plans have been prepared by Messrs. Meakin, Archer and Co., of 73, King William-street, E.C.4.

Deptford.—BUILDING.—The L.C.C. passed £230,000 in respect of the enlargement of the Deptford pumping station, and the construction of a storm relief outlet.

Eaton-square. — EMBASSY. — 103, Eaton-square, has been bought by the Belgian Embassy, through Messrs. G. Trollope and Sons.

Harlesden.—CHURCH.—A large Roman Catholic church is to be erected on a site in Nicoll-road, N.W. The contract is in the hands of Messrs. Ekins and Co., Ltd., of Hartford. The priest in charge is the Rev. Father J. Mulcahy.

Hendon.—FLATS.—A block of 24 flats is to be built in Goldsmith-avenue, Hendon, N.W., and a block of 21 at the corner of Claremont-road and Clitterhouse-road, Cricklewood, N.W. The surveyor is Mr. O. A. Knight, The Burroughs, Hendon, N.W.4.

Hendon.—SCHOOL.—Hendon E.C. have purchased a site between the Drive and Deans-lane, Mill Hill, N.W., for a new school. Plans for a temporary building are being prepared by Mr. O. A. Knight, The Burroughs, Hendon, N.W.4.

Lots-road.—BUILDING.—The L.C.C. have sanctioned £250,000 in respect of the enlargement of the Lots-road pumping station and the construction of the Walham Green storm relief sewer.

Margaret-street. — REBUILDING. — Arrangements are about to be made for the rebuilding of an important block of showroom and office premises. The contract for the demolition works has been placed with the St. Mary's Wharf Cartage Co., Ltd., 13, South Wharf, Paddington Basin, W.2.

North Acton.—SCHOOL.—Acton E.C. has agreed to the purchase of a site of about 5 acres in Lowfield-road, W., for new school. The scheme is under the direction of Major W. G. Cross, Borough Surveyor.

Pall Mall.—BUILDING.—When the site of the mansion next to St. James's Palace, S.W.1, has been cleared by the Greenham Demolition Co., Ltd., London-road, Isleworth, a new block of offices will be built according to a scheme of Mr. W. R. Vaughan, of 45, Grosvenor-street, W.1.

Richmond.—SCHOOLS.—Erection of clinics and special school, a new public elementary school and extension to the Darell-road Council school are proposed by a special sub-committee of the T.C. In this connection Messrs. Swan, Norman and Clay, 8, Clifford's-inn, E.C.4, have been appointed architects.

Sanderstead.—BANK.—Messrs. A. and F. J. Leather, Ltd., 53, Southampton-street, Camberwell, S.E.5, have secured the contract for the erection of new branch premises for the Midland Bank, Ltd., at Station-parade, Sanderstead-road. Plans by Mr. G. H. Goldsmith, F.R.I.B.A., 4, Great Russell-street, W.C.1.

Surbiton. — CHURCH. — Funds are being raised for the erection of a new sister church to St. Matthew's Church, for which a site near the Kingston by-pass road and the railway line has been selected. It is also proposed to extend the present parish hall in Douglas-road, funds for £3,000 being asked for. Arrangements are in the hands of the vicar, the Rev. C. C. Thornton.

Thornton Heath. — ALTERATIONS. — The "Wheatsheaf" public-house in London-road is to be altered and extended, to plans prepared by Mr. G. G. Stanham, of 26-27, Bush-lane, E.C.4.

Tooting.—RECONDITIONING. — The L.C.C. have recommended £22,500 in respect of the reconditioning of Tooting Home, Church-lane, Tooting.

Victoria Embankment.—RESTORATION.—The authorities of Sion College have decided to raise a fund for the restoration of the external fabric of the college.

Wanstead.—HALL.—The tender of Messrs. E. A. Russell, Ltd., of Boundary-road, Walthamstow, has been provisionally accepted for the erection of recreation hall at receiving homes in Wanstead, for the West Ham B.G. The architect is Mr. George A. Allen, F.R.I.B.A., 8, Gray's Inn-square, W.C.1. The price is £4,753 15s. 8d.

Wardour-street.—BUILDING.—Mr. W. A. Lewis, A.R.I.B.A., 11 and 12, Finsbury-square, E.C., has prepared the plans for offices and showrooms on the site of 60-66, Wardour-street, W.1. Quantities will be prepared by Messrs. Gleed, Sons and Co., 8, Martins-lane, E.C.4. Messrs. David Ainslie and Co., estate agents, 35, Panton-street, W.1, are also concerned.

Woolwich.—ADDITIONS.—The L.C.C. have recommended £50,110 for provision of a verandah to ward D 2, the provision of additional isolation accommodation and the provision of additional staff accommodation at the Brook Hospital, Shooter's-hill, Woolwich.

The Calton Site.

On behalf of the Royal Incorporation of Architects in Scotland a letter has been addressed to Scottish representative Peers and Members of Parliament, protesting against the attitude of the Office of Works in not throwing open to competition the design of the Calton site buildings, and stating that "the reiterated statements emanating from the Office of Works have been couched in language of a nature highly disparaging to the architectural profession in Britain." It is suggested that a deputation of Scottish M.P.s should approach the Prime Minister on the matter. The letter states: "The architectural profession of Scotland demands of Government the same right in the present and future as it has enjoyed in the past—namely, to regulate, with the people of Scotland, Scotland's architecture. The matter has an aspect as wide as that of architecture—a Scottish national aspect. Our Scottish architecture is an expression of our national life, and is associated with such world-renowned names as Bruce, Adam, Hamilton, Playfair, Thomson, Rowand Anderson, and Lorimer. The Scottish people regard it with just pride, and recognise that its great traditions are still alive. They view with grave concern the modern tendency to officialise architecture, a tendency which they feel to be inimical to the survival of those traditions. They apprehend one danger, amongst others—the reduction of the character of the Scottish capital's architecture to the level of that of an ordinary English town. Towards this disastrous end nothing could contribute more effectively than that outstandingly important buildings in the capital should be departmentally designed."

Educational Extensions, Essex.

The Essex County Council has sanctioned the expenditure of £66,860 on educational building and repairs. The chief items proposed are:—*Higher Education*—Woodford (Girls), repairs and renovations, £1,027. *Elementary Education* — Canvey Island, £520; Dagenham (between Rectory and Vicarage-roads), site, £2,035; Dagenham, Eastbrook End-road, site, £3,605; Heybridge, site for senior school, £880; Hornchurch, enlargement £20,399, furniture, etc., £1,190, etc., £21,949; Pitsea, site for junior school, £260; Rainham, site for senior school, £920; Romford, Havering-road, erection of infants' department £13,380, furniture, etc., £380, etc., £15,135; Romford, Havering-road, erection of practical instruction block £1,970, furniture, etc., £370, etc., £2,362; Upminster, additional accommodation £13,091, furniture, etc., £830, etc., £14,140; and Brightlingsea, combined treatment and practical instruction centre, erection £3,280, furniture, etc., £225, etc., £3,570. Mr. Jno. Stuart, F.R.I.B.A., Springfield Old Court, Chelmsford, is the County Architect.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Accrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Aldershot	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Alfreton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Alnwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Altrincham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ashford (Kent)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ashington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ashton-under-Lyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Aylsham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barnstaple	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barrow-in-Furness	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/9	1/9	1/9	1/10	1/9	1/9	1/9	1/3½
Birmingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bishop Auckland	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Blackburn	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackpool	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bognor Regis	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bolton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bradford-on-Avon	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Braintree	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Brentwood	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bridgwater	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bridlington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromsgrove	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromyard	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bungay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Burnley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burton-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Cardiff	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Carlisle	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chesterfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chorley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cirencester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Clacton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cranbrook	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Darlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Deal	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Devizes	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11
Dewsbury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Doncaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dorchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Dorking	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Droitwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
E.Glam. (Mon.Val.)	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ely	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Exeter	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Exmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Fakenham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Felixstowe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Folkestone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Frome	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Glossop	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gosport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grantham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Great Yarmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grimsby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Guildford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Halifax	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harpenden	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Harrogate	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hartlepools	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hereford	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Herne Bay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hole	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huddersfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hull	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hunstanton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huntingdon	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Isle of Wight	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
King's Lynn	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Lancaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Leamington Sp.	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leeds	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leicester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leighton Buzzard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Littlehampton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Liverpool	1/9	1/9	1/9	1/10	1/9	1/9	1/9	1/3½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
London:								
12 m. radius	1/8½	1/8½	1/8½	1/8½*	1/8½	1/8½	1/7½	1/3½
12-15 m. radius	1/8	1/8	1/8	1/8*	1/8	1/8	1/7	1/3
Loughborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Lowestoft	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Luton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Macclesfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Maidstone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Malvern	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Manchester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Mansfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Market Harb'rough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Matlock	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Melton Constable	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Melton Mowbray	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Merthyr Tydfil	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Middlesbrough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newark	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newcastle-on-Tyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newcastle-ur-Lyme	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
New Forest	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Nuneaton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Paignton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Pontypridd	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Reading	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Redcar	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Redditch	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Reigate	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Retford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ripon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rochdale	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rochester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rugby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Saffron Walden	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sawbridgeworth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Saxmundham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Scarborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sevenoaks	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sheffield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Southampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southend-on-Sea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
South Shields	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stevenage	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stockport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockton-on-Tees	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stoke-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stowmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Stratford-on-Avon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stroud	1/4½	1/4½	1/4½	1/7	1/7	1/7	1/7	1/2½
Sunderland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swaffham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Swansea	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Tamworth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Thetford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Trowbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Uttoxeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsden	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warminster	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Warrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wells (Norfolk)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Weston-sup-Mare	1/5	1/5	1/5	1/5	1/4	1/4	1/3	1/0½
Weymouth	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Whitby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wigan	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wisbech	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wolverhampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Woodbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Worthing	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Wrexham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wycombe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wymondham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
York	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½

* The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, is 1/11½ per hour.

For Building Trade wages in Scotland, see page 692.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc

APRIL 7.

Aberhafesp.—Repairs.—Renovations, repairs, etc., at Aberhafesp school, for Montgomeryshire E.C. L. Phillips, director and clerk, County Education Offices, Newtown. Dep. £1 1s.

Athlone.—Installation.—Of electric wiring, etc., at District Hospital and Dispensary, for Westmeath County Board of Health and Public Assistance. T. J. Menton, engineer, Moate. Dep. £5.

Bristol.—Premises.—Central premises fronting Colston-st., for Y.M.C.A. Ontley & Lawrence, architects, 25, Orchard-st. Dep. £10.

Burton-upon-Trent.—Houses.—34 non-parlour, at Gordon-st., for C.E. G. T. Lynam, B.E. and S.

Campden.—Houses.—12, in Granbrook-lane, Mickleton, for R.D.C. H. C. Sharp, clerk, The Mann Cottage, Oxford-st., Moreton-in-Marsh. Dep. £1 1s.

Chester.—Lavatories.—At Earls Villas, for Corporation. C. Greenwood, City E. and S. Dep. £2 2s.

Chipping Sodbury.—Repair.—To roofs, walls, etc., at Winterbourne Down, 20 houses; Frampton Common, 12 houses, for R.D.C. W. H. Williams, Council Offices.

Colchester.—Houses.—On Harwich-rd. housing site, for T.C. H. Collins, B.S.

Croydon.—Houses.—Erection of 84 houses on the Mitcham-rd. estate. Town Clerk, Town Hall, Croydon. Dep. £5 5s.

East Ham.—Building.—Lavatory accommodation, etc., at Town Hall, for C.B. B.E. Dep. £2.

Hull.—Installation.—Removal of existing high-pressure apparatus, altering portion high-pressure system, and supplying and fitting low-pressure heating installation at Grammar school, for Corporation. D. Harvey, A.R.I.B.A., City Architect. Dep. £1 1s.

Ilford.—Building.—Showrooms, offices and stores, at High-rd., for T.C. L. E. J. Reynolds, B.E. and S. Dep. £3 3s.

Isleham.—Rebuilding.—Front of Baptist Chapel at Isleham. Percy Holland, Wortington, Ely.

London.—Dwellings.—Block of dwellings, comprising 117 rooms, at Collingwood estate, Bethnal Green, for L.C.C. Architect to Council, County Hall (Room No. 3), Westminster Bridge, S.E.1 Dep. £2.

Mirfield.—School.—Sunday school at Old Bank-rd. C. H. Marriott, Son & Shaw, architects, Church-st., Dewsbury.

Milford and Lumdittch.—Cottages.—4, at Great Dunham, 4 at Lyng, for R.D.C. W. J. Barton, clerk, The Guildhall, East Dereham. Dep. £1.

Near Leeds.—Painting.—External of several buildings at Menston Mental Hospital, for West Riding Mental Hospitals Board. W. E. H. Burton, architect and engineer, West Riding Mental Hospitals Board Offices, Wakefield.

Pontlliw.—School.—New mixed and infants' school, for Glamorgan C.C. H. Rowland, clerk, Glamorgan County Hall, Cardiff.

Shelf.—Houses.—6 houses, Cross-rds, housing estate, for U.D.C. G. Reg Oddy, Lic.R.I.B.A., architect and surveyor, Ward's End Chams., Halifax.

Woodford.—Decorations.—External, to Council offices and appurtenant buildings, for U.D.C. A. D. Ward, E. and S. Dep. £2 2s.

APRIL 8.

***Basingstoke.**—Houses.—Erection of, at Grove-road. G. F. Paget, Town Planning Officer, Municipal-buildings, Basingstoke.

Bellerby.—Memorial hall at Bellerby. F. Robertshaw, Bellerby, Leyburn.

Castleford.—Conveniences.—Public conveniences in Bradley-st., for U.D.C. S. Dep. £1 1s.

East Ham.—Extensions.—To isolation hospital, comprising new administration and staff quarters block, new ward block, new cubicle block, alteration and new verandahs to two existing ward blocks and necessary extensions to drainage, paths, etc., for C.B. A. T. Bridgewater, B.E. Dep. £2 2s.

Muswell Hill.—External Plastering.—Town Clerk, Town Hall, Highgate, N.6

Muswell Hill.—External Decorations.—Town Clerk, Town Hall, Highgate, N.6.

Nottingham.—Rooms.—Dressing room, Wollaton Park playing fields, for T.C. T. Wallis Gordon, City E. and S. Dep. £3

St. Helens.—Stores.—New workshops, general stores and garage, at Gas Works, Warrington Old-rd., for Corporation. F. E. Ward, Gas Engineer, Gas Works.

Shirley, Southampton.—Telephone Exchange.—Erection of, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Southgate.—Bridge.—Superstructure of new bridge over New River at Hedge-lane, Palmers Green, for U.D.C. R. Phillips, S. Dep. £2.

South Shields.—Houses.—Erection of, for the Corporation. Town Clerk, Town Hall. Dep. £2 2s.

APRIL 9.

Battle.—Building.—Pumping station and booster station, for U.D.C. John Taylor & Sons, engineers, Caxton House, Westminster, S.W.1. Dep. £5.

Bury.—Houses.—20 parlour, between Walmersley Old-rd. and existing scheme, for C.B. John Chadwick, B.E. Dep. £2.

Kilbride.—Additions.—To P.E. school, for Antrim Regional E.C. W. D. R. Taggart, C.E. architect, Scottish Provident-buildings, Belfast.

Larbert.—Painting.—At Dobbie Hall, for P.C. A. Smith, clerk.

Leigh-on-Sea.—School.—Erection of a secondary school, for the Southend Corporation. Director of Education, Education Offices, 20, Warrior-square, Southend-on-Sea. Dep. £2.

Penrhiwceiber.—Converting.—Old Co-operative premises, Rheola-st., into Welfare Lesser hall and Institute, for Committee of Penrhiwceiber Workmen's Institute and Public Hall. E. G. Henton, architect, 22, Cardiff-street, Aberdare. Dep. £2 2s.

Perth.—Houses.—104, at Darnhall-drive, and 46 at Florence-place, for T.C. T. M'Laren, B.S. Dep. £1 each.

Stoke-on-Trent.—Repairs.—To houses at Penkhull, Stoke and Hanley, for T.C. E. B. Sharpley, T.C.

Swansea.—Houses.—66, at Townhill estate, for C.B. F. E. Morgan, A.R.I.B.A., Borough Architect, 3, Prospect-place. Dep. £3 3s.

Swathling.—Schools.—Erection of, for the Southampton Corporation. Town Clerk, Education Offices, Argyle-rd., Southampton. Dep. £3 3s.

Twickenham.—Flats.—72 parlour-type houses at Fielding-av., Leeson estate, for T.C. Gilbert R. King, B.E. and S. Dep. £2 2s.

Worthing.—Decoration.—Internal decoration work at pier pavilion, for Corporation. P. E. Harvey, B.E. and S.

APRIL 10.

Chester.—School.—New primary school at Chester-rd., Whitby, near Ellesmere Port, for C.C. F. Anstead Browne, F.R.I.B.A., County Architect, Chester, Newgate-st., Chester. Dep. £2 2s.

East Stow.—Bungalows.—Great Finborough, 12; Old Newton, 6, for R.D.C. Hunt & Coates, architects, 51a, Abbeygate-st., Bury St. Edmund's, and 28, Ipswich-st., Stowmarket. Dep. £3 3s.

Elstree.—Enlargement.—County Council school, at Furzehill-rd., Boreham Wood, Elstree, for Herts C.C. A. E. Prescott, County Surveyor and Architect. Dep. £3 3s.

Galashiels.—Houses.—Five blocks of 3-apartment houses at Wood-st., for T.C. J. B. Lumsden, T.C.

Johannesburg.—Balustrades.—Wrought-iron balustrades to stairways from subways to platforms, Johannesburg new stations, for South African Railways and Harbours Administration. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 9218.)

Near Sheffield.—Painting.—External, several buildings at Wadsley Mental Hospital, near Sheffield, for West Riding Mental Hospitals Board. W. E. H. Burton architect and engineer, West Riding Mental Hospitals Board Offices, Wakefield.

Redruth.—Convenience.—At Porthtowan. Owen Hill, clerk, 8, Penryn-st.

Swallburgh.—Cottages.—Two pairs, and external painting of cottages, for R.D.C. Arthur Peplow, clerk, 25, Grammar School-rd., North Walsham.

Southend-on-Sea.—Bandstand.—Bandstand, constructed of timber, at pier-head on upper deck, and incidental works, for C.B. R. H. Dyer, B.E. Dep. £1.

Wearhead.—Cottage.—Reservoir keeper's cottage at Burnhope Reservoir at Pry Hill, Wearhead, for Durham County Water Board. W. Read Ward, clerk, 5, Northgate, Darlington. Dep. £2 2s.

APRIL 11.

Gillingham.—School.—Erection of, for the T.C. Secretary for Education, 4, Gardiner-st., Gillingham, Kent. Dep. £5 5s.

***Morton.**—Additions.—To the Council Offices, for the U.D.C. Clerk of the Council, 125, Kingston-rd., S.W.19. Dep. £2.

Rowley Regis.—Houses.—16, non-parlour type, for U.D.C. D. Wright, clerk.

Truro.—Residence.—At Chapel-hill. A. J. Cornelius, F.R.I.B.A., architect, Truro.

APRIL 12.

Birkenhead.—New School.—Erection of, for the Corporation. Town Clerk, Town Hall. Dep. £2 2s.

Cambridge.—New Council Offices.—At Castle Hill, for the C.C. County Architect, County Hall. Dep. £3 3s.

Devon.—Buildings.—Farm buildings at Topshayes Farm, Aylesbeare, and 2 semi-detached cottages at Park-hill, Ipplepen, for C.C. Small Holdings Department, 21, Southernhay West, Exeter.

Drumsallan.—School.—Public elementary school, for Armagh E.C. G. H. Mills, architect, The Mall, Armagh.

Fishguard.—Houses.—Ten, with sewers, for U.D.C. D. F. Ingleton, Lic.R.I.B.A., Victoria-place, Haverfordwest. Dep. £2 2s.

Harrogate.—Plastering.—Plastering with cement whole of outer wall of Grove-rd. cemetery, from Providence-ter. to railway bridge, including lifting the coping, and refixing on cement; and, alternatively, replacing stone where necessary, and repointing wall, for the Harrogate, Bilton and Starbeck Joint Burial Board. J. A. Eddison, clerk, 14, Albert-st.

Henstead.—Houses.—2 pairs of 2-storied dwelling houses in Rockland St. Mary, for R.D.C. Cecil Upcher, F.R.I.B.A., 6, Upper King-st., Norwich. Dep. £1 1s.

***Maidstone.**—New Offices.—In Tonbridge-road, for the Corporation. Town Clerk, King-street. Dep. £2 2s.

Merthyr Tydfil.—Houses.—20, at Gellifaelog, for C.B. B.S.

APRIL 14.

***Acock's Green, Birmingham.**—Public Library.—City Librarian, Reference Library, Ratcliff-place, Birmingham. Dep. £2 2s.

Dublin.—Houses.—641, on Cabra housing area, for C.B. City Architect, Exchange-buildings, Lord Edward-st. Dep. £5 5s.

Glasgow.—Improvements.—Jobbing work, viz.: Mason work, plumber and gasfitter work, ironmongery, lime and cement, paints and oils, for T.C. James G. Ewan, manager, 20, Irongate, C.1.

Jedburgh.—House.—Dwelling-house at Telephone Repeater Station, for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh. Dep. £1 1s.

Lancaster.—Building.—Site works and foundation works for transforming stations at Ribble, Preston, and Lancaster, for Central Electricity Board. R. H. Fox, secretary, Trafalgar-buildings, 1, Charing Cross, W.C.2. Dep. £3 3s.

Liverpool.—Dismantling.—Existing sectional timber school building at Leamington-rd., Norris Green, and re-erecting same on site at Wellesbourne-rd., Norris Green, for T.C. Land Steward and Surveyor. Dep. £1 1s.

London.—Wall.—Construction of new concrete river wall, about 1,483 ft. in length, front of Wandsworth-pk., for L.C.C. Chief Engineer, Old County Hall, Spring-gardens, S.W.1. Dep. £2.

Manchester.—Foundations.—For boiler No. 13 at Barton power station, for T.C. H. C. Lamb, Chief Engineer and Manager, Electricity Department, Town Hall. Dep. £2 2s.

APRIL 15.

Biggleswade.—Houses.—46 houses and ancillary works at Arlesey, and 10 houses and ancillary works at Clifton, for R.D.C. F. C. Levitt, architect, Market-sq. Dep. £2 2s.

Glasgow.—Houses.—90, at Carntyn, for T.C. D. Stenhouse, T.C.

Ireland.—Building.—Reconstruction of stations for Garda Siochana at Brosna, Co. Kerry; Dunkineely, Co. Donegal; Ballyfeard, Co. Cork; for Commissioners of Public Works. T. Cassedy, Secretary, Office of Public Works, Dublin. Dep. £1 each.

APRIL 16.

Hull.—Heating.—Installation of low-pressure hot-water heating apparatus at certain schools, for E.C. R. C. Moore, Director of Education.

Ireland.—Building.—Erection of stations for Garda Siochana at Tulsk, Co. Roscommon; Rathgormar, Co. Waterford, and Corofin, Co. Galway, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

London.—Decoration.—At (a) Bloomfield estate, Central-hill, Upper Norwood, section B, 106 dwellings; (b) Holderness and Portobello estate, Knight's-hill, West Norwood, 155 dwellings; (c) St. Louis estate, Auckland-hill, West Norwood, and Redander estate, Brixton, 92 dwellings; (d) Prince's-rd. dwellings, Prince's-rd., Kennington, for Lambeth B.C. Osmond Cattlin, B.E.

York.—Houses.—46 non-parlour in Tuke-av., Tang Hall estate, for T.C. F. W. Spurr, City E. Dep. £2 2s.

APRIL 17.

Ireland.—Building.—Erection of stations for Garda Siochana at Glenamoy, Co. Mayo; Tullyvin, Co. Cavan, and Ballyjamesduff, Co. Cavan, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

Mitcham.—Cinema.—The Chairman, Majestic Theatre (Mitcham), Ltd., 151, Gt. Portland-st., London, W.1.

Mull of Kintyre.—Building.—At Mull of Kintyre Lighthouse Station, to accommodate wireless plant, for the Commissioners of Northern Lighthouses. D. A. Stevenson, E., 84, George-st., Edinburgh. Dep. £2 2s.

St. Ives.—Houses.—17, parlour-type, on Crane Garden estate, Higher Ayr, for T.C. H. E. Phillips, B.S. and E. Dep. £2 2s.

APRIL 22.

Brighton.—Cottage.—Police cottage at Rottingdean, for C.B. D. Edwards, B.E. and S. Dep. £2 2s.

Ilford.—School.—New school buildings to be called "The Beal Central School," on site between Ley-st., Charter-av. and Benton-rd., for T.C. L. E. J. Reynolds, Assoc.M.Inst.C.E., Architect to E.C. Dep. £5 5s.

APRIL 23.

Leeds.—Installation.—Plumbers and heating engineers for hot water installation for washing trams required in extension of Swinegate tram depot, for T.C. Chorley, Gribbon & Foggitt, architects, 3, Park-place.

***London, N.W.2.**—Child Welfare Centre.—For the Hendon U.D.C. Clerk to the Council, Town Hall, Hendon, N.W.4. Dep. £4 4s.

APRIL 25.

Bath.—Reconstruction.—Statutory Hospital, for T.C. F. P. Sissons, City E. Dep. £5 5s.

Bristol.—Houses.—216 houses, for T.C. S. McKenzie, City Engineer and Surveyor, Housing Department, 51, Prince-st. Dep £1.

St. Albans.—Girls' Central School.—For the Herts C.C. County Surveyor and Architect, Hatfield, Herts. Dep. £3 3s.

West Riding.—Building.—New premises for Pontefract King's school; headmaster's house at Pontefract King's school; laying out playing fields and repairs to fences, for C.C. Education Officer, County Hall, Wakefield.

APRIL 28.

Doncaster.—Houses.—24 houses and road work with connection therewith at Council's estate, Rossington, for R.D.C. W. R. Crabtree, S.

Newtownards. — Installation. — Central heating, electric lighting in conversion existing workhouse into district hospital, for B.G. F. Westlake Parkinson, Consulting Engineer, 16, Chichester-st., Belfast.

APRIL 29.

London.—Flats.—60 tenement flats on Sydenham (Winchfield-rd.) housing scheme, for Lewisham B.C. B.S. Dep. £2 2s.

Portsmouth.—Blocks.—Two new blocks for 124 patients and for maintenance thereof, for Committee of Visitors of the Mental Hospital, Milton. E. H. Harvey, architect, The Square. Dep. £5.

MAY 8.

***Crewe.**—New School.—Erection of, for the E.C. Director of Education, Municipal-buildings. Dep. £5 5s

NO DATE.

Bideford.—Shed.—Storage shed for North Devon Farmers, Ltd., at East-the-Water Orphoot. Whiting & Bryce, architects, Westminster Bank-chams., Barnstaple.

Doncaster. — Dedecoration. — Of Priory-place Chapel. G. W. May, 118, St. Sepulchre-gate.

Dublin.—Painting.—Also decorating C.Y.M.S. premises at 9-10, Harrington-st Hon. Secretaries, C.Y.M.S., 9-10, Harrington-st.

Eaton Bray.—Houses.—3 non-parlour type, at Sheencote Corner, Heath, for R.D.C. T. H. Bishop, A.R.I.B.A., chartered architect, 51, Lake-st., Leighton Buzzard.

Guiseley.—Demolition.—Old mill walls. Apply, Grange Low Mills, Guiseley.

Headingley.—Houses.—2 houses and shops, West-nk. Luwee Harris & Son, architects, West Bar-chams., Boar-lane, Leeds.

MATERIALS, etc.

APRIL 7.

Downpatrick.—Tar, etc.—For U.D.C. T. M'Lean, Town S., Church-st.

Edinburgh.—Highway Materials.—For Gas Department. H. H. Gracie, Engineer and Manager, 15, Calton Hill.

Glasgow.—Building Materials.—For Cleansing Department. Director of Cleansing, 20, Trongate.

APRIL 8.

Barnes.—Crushed Ballast, etc.—For U.D.C. F. P. Kindell, E. and S.

Rugby.—Stone.—For U.D.C. J. H. Sharp, S., Benn-buildings.

Rugby.—Tar.—100 tons of refined tar, for U.D.C. J. H. Sharp, S., Benn-buildings.

APRIL 9.

Glasgow.—Lime, etc.—For Sewage Dept. Manager, Sewage Dept., 50, John-st.

APRIL 10.

Sleaford.—Road Materials.—For R.D.C. G. Dale, clerk.

APRIL 11.

Glasgow.—Builders' Materials.—For Gas Dept. General Manager, Gas Dept., 30, John-st.

APRIL 12.

Ormskirk.—Road Materials.—For U.D.C. J. Ashcroft, clerk.

Ruskington.—Road Material.—For U.D.C. W. H. Baldock, S.

APRIL 14.

Manchester.—Concrete Slabs, etc.—For Electricity Committee. H. C. Lamb, Chief Engineer and Manager, Electricity Dept., Town Hall.

Walmer.—Granite, etc.—For U.D.C. S.

APRIL 15.

Knottingley.—Road Materials.—For U.D.C. S.

Loughton.—Highway Materials.—For U.D.C. H. White, S., High-rd.

APRIL 16.

Edinburgh.—Builders' Materials.—For P.C. W. M. Mowat, clerk, Parish Council-chambers, Castle-ter.

Motherwell and Wishaw.—Highway Materials.—For T.C. B.E.

APRIL 23.

Dundee.—Sand.—For Corporation Transport Dept. D. P. Morrison, General Manager, Transport Office.

APRIL 24.

London. — Building Materials. — For M.W.B. Chief Engineer, 173, Rosebery-av., E.C.1.

London. — Building Materials. — For G.W.R. F. R. E. Davis, secretary, Paddington Station, W.2.

ENGINEERING, IRON AND STEEL

APRIL 7.

Gloucester.—Extensions.—To existing sewage disposal works, Standish House, for Gloucestershire C.C. A. H. S. Waters, engineer, 25, Temple-row, Birmingham. Dep. £2 2s.

Hampton.—Reconstruction.—Of Hampton Bridge in reinforced concrete, together with a small diversion of River Isborne, and other incidental works, and widening and improvement of approach roads, for Worcestershire C.C. B. C. Hammond, C.S., 30, Foregate-st., Worcester. Dep. £2 2s.

Lindean.—Beds.—Two new filter beds for waterworks, for D.C. of Roxburghshire C.C. Kyle & Frew, C.E., 227, West George-st., Glasgow. Dep. £1 1s.

Middlewich.—Bridge.—Widening, reforming and regrading Lower-st., Leadsmithy-st., Kinderton-st. and Mill-lane, Middlewich; bridge, ferro-concrete construction "Hennebique System," for U.D.C. C. F. Lawrence, clerk. Dep. £5 5s.

APRIL 9.

Coventry.—Tower.—Construction of Arnold Farm water tower in reinforced concrete, for Corporation. Sir Alex. Binnie, Son & Deacon, engineers, Artillery House, Artillery-row, Westminster, S.W.1. Dep. £5.

APRIL 10.

Cupar.—Improvements.—Tanks and other relative works at Clatto reservoir, for T.C. Bruce & Proudfoot, civil engineers, 63, Nicol-st., Kirkcaldy. Dep. £1.

Manchester.—Reservoir.—Covered concrete reservoir near Abergele, North Wales, for T.C. Engineer, Waterworks Offices, Town Hall. Dep. £1 1s.

Stroud.—Sewage.—2,102 yds. of 6 in., 776 yds. of 9 in., and 729 yds. of 12 in. dia. stoneware pipe sewer, and 47 manholes, together with sewage tanks and sprinklers, at Minchinhampton, for R.D.C. R. Bird, E. and S. Dep. £5 5s.

APRIL 11.

Kinghorn.—Filters.—Two additional filters and clear water tank, together with incidental and relative works at Craigencalt, for T.C. Crouch & Hogg, chartered civil engineers, 17, Lynedoch-st., Glasgow. Dep. £1 1s.

Newbury.—Reservoir.—Concrete reservoir with auxiliary works on site at Cold Ash, for T.C. Consulting Water Engineer, 18, Cheap-st.

Stornoway. — Wharves. — Reinforced concrete wharves and relative works, for Stornoway Pier and Harbour Commission. Henderson & Nicol, chartered civil engineers, 21, Bridge-st., Aberdeen. Dep. £2 2s.

APRIL 12.

Manchester.—Aqueduct.—Northern section of Haweswater Aqueduct, comprising about 5½ miles of tunnel, 1¼ miles of conduit, and 2 miles of large pipes, at Haweswater, for T.C. Engineer, Waterworks Offices, Town Hall. Dep. £10.

Whitehills.—Improvements.—Deepening of harbour, underpinning of existing walls, and extension of jetty, for Whitehills Harbour Commissioners. Henderson & Nicol, chartered civil engineers, 21, Bridge-st., Aberdeen. Dep. £1 1s.

APRIL 14.

Hadleigh.—Water Supply.—140 tons of vertically cast 3-in., 4-in. and 5-in. cast-iron spigot and socket pipes, together with necessary specials; also excavating trenches, hauling, laying, jointing and testing about 3¼ miles of 3-in., 4-in. and 5-in. water mains, supply and fixing necessary sluice valves, air valves, washout valves, fire hydrants, etc.; construction concrete reservoir of 90,000 gallons; building engine house at Lady-lane, for U.D.C. Taylor & Wallin, engineers, 1, Saville-place, Newcastle-on-Tyne. Dep. £5.

Southend-on-Sea.—Shelter.—Timber platform and shelter on sea wall near Leigh bathing station, for C.B. R. H. Dyer, B.E. and S. Dep. £1 1s.

West Riding.—Reconstruction.—Also widening of Pigeon-bridge, and approaches thereto, which carry Rotherham and Pleasley main road over Pigeon Bridge brook, for C.C. West Riding Surveyor, County Hall, Wakefield. Dep. £1.

APRIL 21.

Thornhill.—Extensions.—Double silt tank and 2 additional filters and relative accessory works, for D.C. of Dumfries C.C. W. C. Easton, chartered civil engineer, 183, West George-st., Glasgow. Dep. £2 2s.

APRIL 22.

St. Albans.—Sewage.—Sewering Batford District, Wheathampstead, and small pumping station, for R.D.C. H. F. Mence, L.R.I.B.A., 43, Upper Lattimore-rd. Dep. £2 2s.

APRIL 23.

Dublin.—Steelwork.—355 tons steelwork for bridges, for Great Southern Railways. Deputy Chief Engineer, Westland-row Station, Dublin, C.S. Charge £1 1s.

APRIL 30.

Cairo.—Tank.—Steel water tank on a steel framework tower for the water works at Tala (Menoufieh Province), for Ministry of Interior. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 9221.)

JUNE 1.

Benha (Egypt).—Bridge.—Steel bridge, and demolition of existing bridge, over Nile, for Ministry of Communications., Administration of Bridges and Roads. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 9222.)

ROAD, SEWERAGE, AND WATER WORKS

APRIL 7.

Chester.—Making-up.—Passages off and rear of Cambrian-rd. and Orchard-st., for Corporation. C. Greenwood, City E. and S.

Kenilworth.—Extensions.—2,870 yds. of 10-in., 9-in. and 6-in. sewers, with necessary manholes, flushing chams., etc., for U.D.C. Sholto Douglas, E. and S. Dep. £2 2s.

Nuneaton.—Road Materials.—For U.D.C. S., 25, Newdegate-st.

Rochester.—Drainage, etc.—On the Longley-rd. housing site, for the Corporation. City Surveyor, Guildhall. Dep. £3 3s.

Swansea.—Road.—Construction of road, sewer, and surface water drains at Gorseinon, for R.D.C. Francis T. James, E. and S., Penybryn, Alexandra-rd., Gorseinon.

Watford.—Making-up.—Of Cedar-rd., for T.C. W. W. Newman, B.E. Dep. £2 2s.

Welwyn Garden City.—Surface Dressing of Roads.—For spraying with hot bituminous dressing 103,000 super yds. of road surface, for U.D.C. Capt. W. E. James, S.

APRIL 8.

Lancaster.—Dressing.—Surface dressing of district roads, approx. 380,000 sq. yds., for R.D.C. W. N. Nelson, S., 5, Dalton-sq., Lancaster

Sligo.—Surfacing.—Wine-st., for Corporation. John Shea, T.C. Dep. £2 2s.

Wallasey.—Road.—New road in extension of Leasowe-rd., from Reeds-lane to Pasture-rd., for Corporation. B.E. and S.

APRIL 9.

Cornwall.—Reconstruction.—Including widening and surfacing partly with waterband macadam and partly with asphalt macadam, road between Penzance Borough (Eastern Boundary) and Hayle Causeway, for C.C. E. H. Callcutt, C.S., Truro. Dep. £25.

Erith.—Improvements.—In Bedonwell-hill, Belvedere, between Westergate-rd. and Bedonwell Manorway, for U.D.C. H. Hind, E. and S. Dep. £1 1s.

Glamorgan.—Road.—Cardiff and Swansea Trunk-rd., widening between Culverhouse Cross and St. Nicholas; Bridgend and Maesteg main rd., widening and diversion between Angelton and Penyfai Common; and Cardiff, Glyntaff and Merthyr main rd., improvement at Pont-shon-Norton, Pontypridd, for C.C. Henry Rowland, clerk of C.C.

Orsett.—Sewers.—8,300 yds. of 6-in. and 12-in. stoneware pipe and concrete tube sewers, with manholes, ventilating shafts, etc., at Horndon-on-the-Hill and Corringham sewerage, for R.D.C. G. F. Andrassy, E. and S. Dep. £2 2s.

St. Germans.—Spraying.—With bituminous spray various roads for R.D.C. K. G. Foster, S., Tideford, St. Germans.

Skegness.—Road Surface Dressing.—For U.D.C. R. H. Jenkins, E. and S.

APRIL 10.

Leeds.—Kerbing.—Reinstating trench opening in City; kerbing, flagging, tar-paving footpaths and carriageways in Jessamine-av., back Welburn-av., Welburn-grove, for T.C. E. W. Cockerlyne, Highways Engineer. Dep. £2 2s.

Leyton.—Making-up.—Of Wiseman-rd., for T.C. A. P. Howell, B.E. and S. Dep £10.

Wealdstone.—Improvements.—Sewerage and of surface water drainage from 73 to "Priestmead," in Kenton-lane, for U.D.C. H. Walker, C.E., S. Dep. £1.

APRIL 11.

Brighouse.—Tarspraying.—About 100,000 sq. yds rds., for T.C. S. S. Haywood, B.E. and S.

APRIL 12.

Glasgow.—Roads.—Also sewers at Carnwadric, for T.C. Director of Housing, 20, Trongate, C.1.

Honington.—Road.—Short by-pass road to main road in Honington, near Grantham, for Kesteven C.C. C.S., **Sleaford.**

Preston.—Pipes.—7,600 yds. 36-in. dia. and 167 yds. 33-in. dia. cast-iron pipes, for C.B. B.E. and S.

Romford.—Making-up.—Heath-drive, Elm-walk, Gidea-av., Gidea-close, Broadway, Parkway, Meadway, Reed Pond-walk (a), Reed Pond-walk (b), Heaton Grange-rd., and Risebridge-rd., for U.D.C. F. G. Beaumont, E. and S. Dep. £3 3s

APRIL 14.

Blaby.—Reconstruction.—In bituminous material of Anstey-Glenfield-Rathy-rd., for R.D.C. Geo. Grayling, Highway S.

Kingston-upon-Hull.—Sewers.—Reinforced concrete street and sewer works in Beverley-rd. and Ring-rd., for T.C. T. Thomas, City E.

London.—Main.—Laying and jointing approx. 3,330 lin yds. of 8-in. cast-iron main, together with connections and contingent works, in Great West-rd., between the Board's pipe track and Syon-lane, for M.W.B. Chief Engineer, Offices of Board, 173, Rosebery-av., E.C.1. Dep. £10.

London.—Extensions.—Construction in concrete of 4,060 lin. ft. of open channel to carry flow of River Graveney from west side of Hermitage-bridge, Streatham High-rd., to end of existing aqueduct near Roe-bridge, Mitcham-lane, and other works in connection therewith, for L.C.C. Chief Engineer, Old County Hall, Spring-gardens, S.W.1. Dep. £10.

APRIL 16.

Knaresborough.—Improvements.—Lay-out and improvement of Moat Field, for U.D.C. G. W. Boyes, clerk, York-place. Dep. £2.

APRIL 16.

Birmingham.—Sewer.—Widening and reconstruction of Kingstanding-rd., Perry Barr, between College-rd. and King's-rd., length of about 3,000 yds., including foul and surface water sewers; widening and reconstruction of Stuart's-rd., Yardley, between Yardley Fields-rd. and Blakesley-rd., length of about 700 yds.; Widening, reconstruction and part diversion of Hogg's-lane and Merritts Brook-lane, Northfield, between Cock-lane and Elmdale-cres., length of about 1,175 yds., for T.C. Herbert H. Humphries, City E. and S. Dep. £2.

Poole.—Sewerage.—24 miles of, stoneware, concrete sewers and cast-iron, varying in diameter from 6 in. to 15 ins., and manholes, for R.D.C. Dodd & Watson, engineers, Wellington House, Bennett's Hill, Birmingham. Dep. £2.

Portrane.—Scheme for disposing of farmyard drainage at mental hospital, for Joint Committee of Grangegorman Mental Hospital. P. H. McCarthy, 26, Lower Leeson-st., Dublin. Dep. £1 1s.

Rickmansworth.—Sewerage.—At Claypit-lane and Sandy Lodge-way, for U.D.C. S. Dep. £2 2s.

APRIL 17.

Prestwich.—Extension.—Of Heywood-rd. to Glebelands-rd., for U.D.C. E. and S.

Watford.—Sewerage.—7,500 yds. stoneware pipe and concrete pipe soil and surface water sewers, varying size from 21 in. to 9 in. dia. (including 300 yds. in heading), and appurtenant works, for T.C. W. W. Newman, B.E. Dep. £5 5s.

APRIL 21.

Cardiganshire.—Road.—Improvement and diversion of Newquay-Lanarth-rd., for C.C. Howard Humphreys & Sons, consulting engineers, 28, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

MAY 27.

Cairo.—Mains.—Laying, jointing and testing of 14,550 metres of cast-iron spigot and socket pipes from 3 in. to 20 in. dia., together with specials and valves, for Ministry of Public Works. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 9292.)

Public Appointments

APRIL 10.

Tottenham.—(*a*) Engineering Assistant (Permanent, (*b*) Architectural Assistant (Temporary), required by the U.D.C. Engineer of the Council, Town Hall, N.15.

APRIL 12.

***Gloucester.**—Architectural Assistant required by the C.C. County Education Architect, Shire Hall.

***Leicester.**—Architectural Assistant required by the Corporation. City Engineer and Surveyor, Town Hall.

APRIL 14.

***Chichester.**—(1) Temporary Architectural Assistant; (2) Male Shorthand Typist; required in C.A.'s Department, County Architect, North-street.

APRIL 22.

***Barrow-in-Furness.**—Building Inspector required by the Corporation. Town Clerk, Town Hall.

Prince Edward Theatre, W.

A description of this work is given on page 662.

The general contractors are Messrs. Griggs and Son, and the following are sub-contractors:—Berkeley Electrical Engineering Co., Ltd., electrical work; H. Young and Co., Ltd., steelwork; H. E. Gaze, Ltd., fibrous work; Marc Henri and Laverdet, decorative work; J. B. Blaikie and Sons, Ltd., drainage; Wiggins-Sankey, Ltd., bricks; Evos Doorways, Ltd., doors; St. Mary's Wharf Cartage Co., Ltd., excavation; Ragusa Asphalt Paving Co., Ltd., asphalt; Morris Singer Co., Ltd., ironwork; J. Starkie Gardner, Ltd., canopy; Marryat and Scott, Ltd., lifts; Carrier Engineering Co., Ltd., heating; The British Vacuum Cleaner Engineering Co., Ltd., vacuum cleaning; Invicta Flooring Co., Ltd., flooring; Roberts, Adlard and Co., slating; J. Edgington and Co., Ltd., blinds; Story and Co., Ltd., decorations; F. J. Norris and Co., escapes; Jackson Boilers, Ltd., boilers; Sika-Francois, Ltd., waterproof cements; F. Knight and Sons, handles.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians, B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education, M.A.B. for Metropolitan Asylums Board; Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

Accrington.—The Baths Committee going forward with new plunge at baths in Corporation-st. Additional private baths and remedial baths also contemplated.

Altofts.—U.D.C. been notified by C.C. of intention to erect elementary school to accommodate 530 children. Plans by H. Wormald, Architect, Education Dept., County Hall, Wakefield.

Ambleside Plain.—P.M. authorities propose church and school at New Greencroft. T. W. T. Richardson, F.R.I.B.A., 57, High-st., Stockton-on-Tees, has prepared plans.

Armthorpe.—Council of Parish Church propose church hall.

Askern.—Pontefract Co-operative Society, Ltd., acquired property at corner of Moss-rd. and High-st.

Ashrigg.—Grammar School at Yorebridge to accommodate 100 scholars. J. C. Wrigley, Education Offices, Northallerton.

Baildon.—Proposal is under consideration by the C.E. authorities for provision of infants' school adjoining the existing Sandals school.

Banff.—T.C. received Department of Health for Scotland approving 4 blocks of 4 three-apartment houses on Duncan-st., and authorising acceptance offers amounting to £3,683 18s. 9d.

Barking Town.—U.D.C. received £6,600 for public elementary school purposes.—Two additional walls, etc., at £200 at bridge over Loxford Water, London-rd.—Plans passed: amended lay-out, 13 section, Becontree housing estate, due to alteration of school site; shops, Ripple-rd., for J. Graffy.

Barnsley.—Architect, Barnsley British Co-operative Society, New-st., prepared plans for premises in Dodworth-rd.

Barnsley.—Extensions branch tailoring premises, Montague Burton, Ltd., in Cheapside. Plans by H. Wilson, architect, 31, North-lane, Roundhay, Leeds.

Bath.—T.C. to purchase land at Odd Down for proposed erection of 360 houses.—Council received M.H. sanction to £23,000 for highway depot at Tiverton. Plans been prepared for additions to buildings in Henry-st.

Bedford.—Additions and improvements, premises of Consumers Tea Co., Ltd., in Castle-lane. E. H. Caleb (Inskip), architect, 27, Goldington-rd.

Berwick-on-Tweed.—T.C. to make application for £5,390 for 16 houses at Tweedmouth.

Billericay.—Plans approved for addition at Isolation hospital. Hugo R. Bird, L.R.I.B.A., architect, St. Thomas-gate, Brentwood.

Birmingham.—Sanction given E.C. to carry out scheme for reorganisation of elementary schools involving expenditure on buildings and fixtures of £337,760. Schemes for Council schools at Perry Barr and Northfield also approved.

Blackpool.—Rev. Glynn Jackson, The Parsonage, Waterloo-rd., South Shore, proposing church of Holy Cross, junction Central-drive and Waterloo-rd. Plans by Halstead Best, F.R.I.B.A., architect, 20, Clifton-st.—Committee of St. Annes-rd. Working Men's Club proposing headquarters, St. Annes-rd., South Shore. Plans by Slater & Parkinson, Bath-st.

Blackpool.—Negotiations proceeding between Corporation and the L.M.S.Rly. Co. for occupation of area of land for railway company adjoining Green-hill sidings, which they propose to extend.

Bolton.—T.C. approved: A. H. Price & Groves, 6 houses and 3 lock-up garages, Sharples-av.; A. S. Woods, 6 houses, Verdure-av., and 2 houses, Kingwood-av.; S. Newsome & Sons, 8 houses, Boot-lane; T. P. Smith, Ltd., 8 houses, off New Church-rd.; E.C., class rooms extension; Lostock open-air school; Leigh Bros., Ltd., 2 houses, Crompton-way.

Bolton.—B. of E. approved plans for new classrooms, teachers' rooms and additional dormitory provision at Lostock open-air school, and to approval of M.H. to £7,475, for accommodation for 200 residential scholars.

Brighton.—T.C. approved: alterations and addition, 6, Hampton-place, Field & Cox, Ltd.; alterations, 23, London-rd., Brighton & Hove Wine Co., Ltd.; 4 shops, residences and garages, Carden-av.; E. H. Rowe, rebuilding, 169-174, Western-rd., British Home Stores, Ltd.; 18 houses, Eastbourne-rd., Braybons, Ltd.; alterations to seating, Court Theatre, New-rd., H. R. Cohen.

Buckhurst Hill.—Tooley & Foster, FF.R.I.B.A., architects, Council Offices, Queen's-rd., Carnforth, prepared plans for internal decorations to St. John's Church.

Bucks.—E.C. submitted schemes for school building at £1:7,300. Schemes been approved.

Cambridge.—T.C. approved: additions, Emmanuel-st., Master, Fellows and Scholars of Emmanuel College (R. Gardner, Bursar); warehouse, Hills-rd., L.M. & S.R. Co., Engineers' Department, Derby; shops, offices and flats, Sidney-st., Sussex-st. and Hobson-st., Master, Fellows and Scholars of Sidney Sussex College (A. H. Davenport, Bursar); additions, Milton-rd. Institute of Animal Pathology, University of Cambridge, Prof. J. Basil Buxton, Medical Schools, Cambridge.

Carnforth.—Plans for John Rigg & Son, Ltd., builders, Oxford-rd., for houses at Bloomfield-park.

Carshalton.—L.C.C. recommend £620 in respect of improvements to operating theatre at Queen Mary's Hospital.

Castleford.—Conveniences with cloak-room accommodation in Bradley-st. by U.D.C., at £1,750.—Extensions to Temple-st. boys' school, £4,400.

Chatham.—E.C. approved plans by architect for school for junior boys at Lyton, and also approved appointment of Thurgood, Son & Chidgey, of London, as quantity surveyors in connection with school.

Chippenham.—Scheme of extension at Cottage Hospital, estimated to cost £10,000, being considered by authorities.

Colwyn Bay.—Plans passed by Council: Old Colwyn: 20 houses, Minydon estate and 6 in Kensington-av., T. B. Gorst; 2 pairs semi-detached houses and 2 pairs semi-detached villas at Hillside, off Llanelian-rd., I. Roberts, Rhos-on-Sea: 18 bungalows, Penrhyn-av., Wooler & Sons.

Corstorphine.—William Swan, 105, Pitt-st., Leith, to erect 22 garages in Featherill-ay., Corstorphine.

Coventry.—T.C. approved: alterations to the "Horse and Jockey" public-house, corner of Much Park-st. and St. John-st., Atkinson's Brewery, Ltd.; alterations to premises, Upper York-st., for Coventry Co-operative Society, Ltd.; 7 houses, Max-rd., and 3 houses, Cedars-av., J. F. Daly & Son; cloakroom, assembly hall, Quadrant, Warwick-rd., Y.M.C.A.; 13 houses, Church-lane, A. E. White; 13 houses, Walsgrave-rd. (Wyken House estate), T. Bates & Son; branch library, Windmill-rd., Public Libraries Committee; 9 houses, Max-rd. (corner of Laburnum-av.), Bayliss Bros.; 16 houses, Walsgrave-rd. (Wyken House estate), C. A. Anelay & Son; 4 houses and house with shop, Max-rd. (corner of Lavender-av.), Neale & Parker; 10 houses, Laburnum-av., T. Randle; sanitary convenience, off Oliver-st., Rover Co., Ltd.; 13 houses, Max-rd., J. F. Daly & Son; 4 houses, Woodside-av., Hill & Son.

Croydon.—C.B. received M.H. sanctions to borrowing £3,500, Morland-rd., convenience; £22,268 street works, Mitcham-rd. housing estate; £1,625, concreting part of Norbury Brook; £14,854 Mitcham-rd. baths and washhouses (buildings); £2,260, provision of public conveniences, Mitcham-rd.—Council approved buildings at £850 at Thornton Heath Polytechnic.—Plans passed: J. W. Freed, The Green, Addington, porch, washhouse and store additions, The Green, Plot 73, Addington; G. W. Peachey, 8, Norfolk-st., W.C.2, 6 houses, Ballards-way; S. Malthouse, "June," Basildon-rd., Laindon, convert house into 8 flats, 20, Lancaster-rd.; Thomas & Son, Chipstead, 19 houses, Covington-gardens; M. K. Matthews, 72, Tottenham Court-rd., W.1, shop with rooms over and alterations and additions, 150, High-st.; Truett & Steel, High-st., Thornton Heath, additions, 111, Parchmore-rd.; M. Brown & Sons (Croydon), Ltd., Spring Park Farm estate, 50 houses, West-way; J. M. Ross, 11, Victoria-st., S.W.1, 24 houses and garages, High View-close; T. F. W. Grant, 11, Buckingham-st., W.C.2, vestry additions, Christ Church, Sumner-rd.; F. H. Willcocks, 51, Beechwood-av., 17 houses, Foxley-rd.; Truett & Steel, High-st., Thornton Heath, garages and stores, Beulah-rd. at Parchmore-rd.; L. H. Harrington, Selsdon-rd., convert house into showroom and 60 lock-up garages, "Woodlands," Coombe-rd.; Borough Electrical Engineer, High-st., sub-station, St. Augustines-av.; C. E. Riches, 5, Church-rd., loading dock, Shirley Brewery, Surrey-st.; F. C. Stoneman, 15, St. James'-park, workshop and garages, 15 St. James'-park; A. Andrews, 102, Lebanon-rd., 9 houses and garage, Zermatt-rd.; W. T. Joyce, 15, Broad Green-av., 6 houses, Berne-rd.; H. Berney & Son, 33, High-st., nurses' homes, Lennard-rd.; Boots, Ltd., Nottingham, alterations and additions, 259, Lower Addiscombe-rd.

Darwen.—T.C. propose elementary school, Manor-rd. Plans by B.E.

Doncaster.—R.D.C. proposing site at Norton for housing.

Dudley.—T.C. approved: J. Hanson & Sons, Ltd., Tower-st., Dudley, additions to brewery, Greystone-st., Dudley; B. Harris, 12, Cradley-rd., Netherton, new stores on existing foundations, 12, Cradley-rd., Netherton; E. Smith, Meeting-st., Netherton, 4 garages, Union-st., Netherton; Dudley R.C., new elementary school, Dudley Wood-rd., Dudley; Herald Press, Ltd., Priory-st., Dudley, alterations, Priory-st.; S. C. Lloyd (Wholesale), Ltd., Market-place, warehouse, Castle Hill-rd.

Dunstable.—T.C. approved 4 houses, Union-st., Robinson & White.

East Barnet.—U.D.C. approved: 5 houses, Great North-rd., C. W. B. Simmons, Ltd.; 5 houses, Victoria-rd., H. E. Percy.

Falkland.—Scottish Wholesale Co-operative Society, Ltd., Houston-place, Glasgow, proposes linoleum factory.

*See also our List of Contracts, Competitions, etc.

Gateshead.—Borough Committee to proceed with plans of secondary school for girls.

Gerrards Cross.—W. David Hartley, A.R.I.B.A., Slough, prepared plans for hall, for Gerrards Cross Congregationalists.

Glossop.—T.C. approved rebuilding "Victoria Inn," Gartsides Brewery Co., Ltd.

Gloucester.—Extensions to County Hospital are under consideration. Cost £20,000.

Goldthorpe.—Sketch plans of senior school to be built at Goldthorpe Green, opposite Welfare estate, cost £40,000. Accommodation for 600 boys and 600 girls. Plans by County Architect, H. Wormald, A.R.I.B.A., County Hall, Wakefield.

Gorton.—Thorpe & Collier, architects, 66, Deansgate, Manchester, prepared plans for store premises, Hope-st.

Gosport.—Young & Hall, F.R.I.B.A., 17, Southampton-st., London, W.C.1, in conjunction with L. M. Field, L.R.I.B.A., architect, 40, High-st., prepared plans for extensions War Memorial Hospital, at £7,000.

Greenock.—Additions premises, Fleming, Reid & Co., Ltd., Merino Mills. G. Arthur & Sons, architects, 4, Graham-st., Airdrie.

Guildford.—T.C. approved: semi-detached houses, 7 pairs, South-rd. and Percy-rd., Stoughton, Ashenden; alterations and additions, Portsmouth-rd., Friary, Holroyd & Healy's Breweries, Ltd.; 26 semi-detached houses, Worplesdon-rd., R. C. Whitemore.

Ham.—Plans submitted by Bishop & Etherington Smith, on behalf of Messrs. Cellon, for wax polish store at works, and Committee recommend Council.

Hayes.—U.D.C. approved: 8 shops with flats, East-av. and Coldharbour-lane, Hopkin Morris.

Hebden Bridge.—U.D.C. approved plans by Sutcliffe & Addison, 6 houses, Lime-av.

Heston and Isleworth.—U.D.C. approved: Geo. Wimpey & Co., 138 houses, Worton estate; Melville S. Ward, public-house, London-rd.; Westminster Bank, Ltd., alterations, 4, The Parade, Bath-rd.; Hobden & Perri, alterations, 179, High-st., Hounslow; T. Wareham, 6 houses, Winchester-av.; Perrys (Ealing), Ltd., 124 houses, extension of the Crossways, Heston; H. B. Phillis, 4 houses, Beaverslane; P. Chase Gardener & Co., 12 houses., Lampton-av.; Wallis Gilbert & Partners, warehouse extension, firestone factory, Great West-rd; Geo. Wimpey & Co., 62 houses, Hall-rd.; G. Whittaker, 2 shops with living accommodation, Kingsley-rd.; P. Chase Gardener & Co., 6 shops, Staines-rd.; Berkeley & Berkeley, 6 shops with living accommodation, Bath-rd.; P. Chase Gardiner & Co., 4 houses, Heston-rd.

Holbeck (Yorks).—Junior technical school, at £20,000. Similar school by E.C. upon site at Woodhouse, at £30,000.

Hull.—Baptist Church made application for church site on East Hull housing estate.

Ilford.—T.C. approved: G. E. Holditch, warehouse, Cakebread, Robey & Co., High-rd.; Montague Holmes & Sons, 6 shops and dwellings, Ley-st.; J. Aldridge, 12 houses, 37-59, Brook-rd., and 2 houses, Church-rd.; G. H. Marshall, additions, 512-514, Green-lane; R. A. Linsell, 5 lock-up garages, Brook-rd. Garage, Brook-rd.; A. P. Griggs, 7 houses, 5-17, Lincoln-gardens; W. Edwards, 4 houses and garages, 1-7, Campbell-av.; Lewis Solomon & Son, 7 lock-up shops, Greenlane, Becontree; A. W. Amos & Son, alterations and additions, 8, Broadway-market, Ilford-lane; A. Hulbert, shop premises, Eastern-av., for London Co-operative Society; T. Anders, 43 houses, 1-9 and 2-28, St. Leonard's-gardens; 1-21 and 2-26, St. Thomas's-gardens; E. Meredith, church hall, Mossford-green; J. Aldridge, 4 houses, 273-279, South Park-drive; C. J. Dawson, Son & Allardyce, additions to King George's Hospital, Hatch-lane; Holland Bros., 12 houses, 2-24, South Park-rd.; J. W. Moore & Sons, 7 houses and garages, 63-65 and 62-64, Westrow-gardens; and 103-107, Levett-gardens; F. Fisk, meeting hall, Danehurst-gardens; W. Edwards, 15 houses, New North-rd.

Ingleton.—West Riding C.C. to undertake enlargement Council School, at £3,200. Plans by County Architect, H. Wormald, A.R.I.B.A., County Hall, Wakefield.

Kettering.—U.D.C. approved: Sports and Rubber Stores, Ltd., alterations to premises, High-st.; S. T. Patrick, alterations premises, Duke-st.; Gaumont British Picture Corporation, Ltd., for paybox and screen, Electric Pavilion, Wadcroft.

Leighton Buzzard.—Council to build 8 houses in Mill-rd.

Liverpool.—E.C. recommend Holt secondary school for boys and secondary school for girls at Fazakerley. Plans by Land Steward.—E.C. also recommend alterations to schools:—St. Augustine's Council, alterations to boys' dept.; Queen's-rd., reconstruction; Walton-lane, reconstruction; Major Lester, additional accommodation; Upper Park-st., reconstruction; Windsor-st., reconstruction; Bonler-st., additional rooms and structural alterations.—Site to be purchased in Seeds-lane-gardens for extension to Barlow-lane school site.—£910 recommended for purchase site for improvements Roscommon-st. Council school.—Housing Committee allocated to Education and Health Committee site fronting Townsend-av., Norris Green estate, for school clinic and infant welfare centre, in lieu of one previously allocated.—E.C. recommend £1,161 in respect additional cost of erecting senior boys' section of Springwood Council school on Heath-rd, site.—M.H. given formal sanction to £1,925 for piggery in connection with Faxakerley sanatorium.—M.H. sanctioned £5,454 for alterations and additions, etc., at Quarry Bank maternity and rest home.—Application to be made to M.H. for sanction to borrowing £12,300 in respect of purchase of land in Myrtle-st.

London (Bermondsey).—B.C. received L.C.C. sanction to borrow £1,650 for purchase of site and erection of two cottages, 642 and 644 Rotherhithe-st. Council also received £7,400 for housing purposes.—Drainage plans approved: W. E. Baker, General Manager of Works, Town Hall, Spa-rd., for B.C., disinfecting station, The Neckinger depot; the Foundation Co., Ltd., York House, 15, Regent-st., S.W.1, for London Electric Supply Corporation, Ltd., 25a, Cockspur-st., S.W.1, electrical sub-station, Swan-lane.

London (Camberwell).—B.C. approved. lock-up garages, Brabourne-grove, abutting on Southern Railway; 2 shops on forecourt of 10, East Dulwich-rd.; lock-up garages, Dunstan's-rd.; one-story shops, rear 125, Queen's-rd., to abut upon King's-rd.; parish hall, Brunswick-sq., next Camberwell-glebe; erection of one-story addition at 106, Lordship-lane.

London (Chelsea).—Drainage plans, etc., submitted for approval by B.C.; Wheeler Bros., house, 18, Lennox-gardens; Messrs. Parnacott, house, 41, Cadogan-gardens; Worman & Hussey, house, 32, Bywater-st.

London (Fulham).—L.C.C. recommend £445 for installation of electric lighting in Broxholme House, Fulham.

London (St. Pancras).—B.C. received L.C.C. sanction to £17,660 for flats and shops at 7 and 9, Camden-rd., N.W.—Council propose £400 for alterations, Suffolk Wharf.—Widening of Park-st. proposed.

London (Stepney).—B.C. propose to remove conveniences at Burdett-rd. and Mile End-rd. and erect new buildings elsewhere.

London (Wood Green).—U.D.C. appointed members to confer with Middlesex E.C. upon proposals for further extensions and alterations to Trinity County school.

Luton.—T.C. approved: H. J. Mead, 6 houses, Alder-crescent; H. V. Hayward, 4 houses, Colin-rd.; R. V. How, 4 houses, Alder-crescent; W. Hucklesby, 9 houses, Broadmead and Alder-crescent; Luton Industrial Co-operative Society, Ltd., alterations and additions, Naseby-rd.; A. Grover, pavilion, Blundell-rd.; W. J. Wells, 28 houses, Bishopscote-rd.

Maidenhead.—T.C. approved: Alterations and additions, King-st., Reading Co-operative Society; 2 pairs semi-detached bungalows, Ray Mill-rd., Cripps & Green.

Malton.—R.D.C.'s £94,600 water scheme approved for grant.

Manchester.—Alterations etc., to premises, Constitutional Club, St. Ann-st. P. E. Barker, A.R.I.B.A., 32, King-st., architect.—A. MacDonald, architect, 71, Meadow-st., Moss Side, prepared plans for additions club premises, Sherbourne-st.—Montague Burton, of Leeds, are to have new premises at 101 and 103, Oldham-st. H. Wilson, architect, 81, North-lane, Roundhay, Leeds.

Manchester.—Alterations and additions Army & Navy Stores, Ltd., at 14, Barton-st., Liverpool-rd. Plans approved and architect is A. MacDonald, 71, Meadow-st., Moss Side.—Sub-station at the works of J. & J. W. Mallalieu, Mill-st., Ancoats. Thorpe & Collier, architects, Barton House, 66, Deansgate.

Manchester.—Alterations and additions at 45, Higher Ardwick for Child Welfare Centre for Public Health Committee, at £850. Plans prepared by H. Price, A.R.I.B.A., Town Hall.

Near Goole.—Raines & Porter, Ltd., lubricating oil manufacturers, of Hull, purchased 7 acres of land in vicinity of proposed new Boothferry Bridge.

Newcastle-on-Tyne.—Garage on site, Portland-rd., Jesmond, for United Automobile Services. Accommodation for 150 omnibuses. Plans by Marshall & Tweedy, FF.R.I.B.A., architects, 54, Grayst., Newcastle-on-Tyne.

Norton.—R.D.C. to complete houses on Council's housing estate. Also intended to erect 20 houses at Askern.

Northants.—County E.C. propose extensions, Broughton School, and also to Irthlingborough school.

Paignton.—U.D.C. approved: amended lay-out for 25 houses and amended plan of houses on sites 11-19, Blatchcombe-lane, Diggines Bros.; lay-out and 21 houses, Marldon-rd., A. Jonas; 8 pairs houses, Sea View-crescent, for H. Proctor.

Penryn.—T.C. received M.H. sanction to 54 houses.

Plymouth.—T.C. approved: Jays, Ltd., alterations, 7, 8 and 9, The Octagon; W. H. Joce, 12 houses, Dale-gardens; Prices Tailors (1928), Ltd., alterations, 2 and 3, Union-st., Plymouth; B. Taylor & Co., alterations, 54 and 56, Mutley-plain.

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Preston.—C.B. approved: W. Sharples, for Preston Speedways, Ltd., refreshment room, New Hall-lane; C. W. Highfield, for Wilsons' Brewery, Ltd., alterations, North-rd.; E. J. Andrew, for A. Heywood & Son, extension to warehouse, Theatre-arcade, Fishergate.

Rochdale.—T.C. approved: Bury Brewery Co., Ltd., alterations and extensions, "High Sheriff" hotel, 71, Halifax-rd.; Rochdale Provident Co-operative Society, Ltd., alterations, central premises, Lord-st.

Rothwell.—E.C. approved sketch plans of senior school at Holmesley, Rothwell Haigh, at £30,000. Site, Woodlesford-lane, Cross-rds. and Pontefract-rd.

Scotland.—Plans being prepared by Master of Works for workshops for gas department of Greenock Corporation.—Schedules been issued by Renfrewshire E.C. works department for Catholic school at Port Glasgow.—Arthur & Sons, architects, Airdrie, prepared plans for block houses for Port Glasgow T.C.

Scrooby.—It has been decided to go forward with restoration of Parish Church (Vicar, Rev. H. C. B. Stone).

Slough.—U.D.C. approved: 20 houses and road off Leeds-rd., for H. Heath & Son; 12 houses off Lascelles-rd., E. Stiles; 10 houses, St. Paul's-av., G. F. Newitt.

Southend-on-Sea.—C.B. approved: 4 houses, Thames-drive, J. P. O'Connor; alterations and additions, "White Horse Hotel," Southchurch-rd., Mann, Crossman & Paulin, Ltd.; new public house, "Peter Boat Inn," Prince-av. (corner of Queen Anne's-drive), Mann, Crossman & Paulin, Ltd.; pavilion and lavatories, Cavendish Sports Ground, Clatterfield-gardens, Chas. Neil; alterations and additions, "The London Hotel," High-st., Southend, Whitbread & Co., Ltd.

Stanningley.—Farsley U.D.C. approved site between Charles-st. and Andrew-sq. for electricity transformer station for Electrical Distribution of Yorkshire, Ltd.—Swinnow United Methodists, extensions to chapel, at £1,400. J. Brodie, architect.

Stockport.—B.S. prepared lay-out plans for development, site at Reddish, for housing scheme, for corporation.—Plans approved for 180 three-bedroomed type houses in pairs and 10 blocks of 4 two-story flats on site.—Land reserved on Bates Hey estate, Adswood-lane, for school and playing-fields.

Strood.—R.D.C. to erect 8 houses adjoining Hazeldene cottages, Higham.

Sunderland.—Plans for improvement Divan Hotel, Hendon-rd., approved by Building Committee. Also plans for semi-detached houses in Calderbourne-av., Cliff Park estate, and in Park-av. North, for E. & J. Purvis.

Sutton Coldfield.—T.C. approved: 4 houses, Silvermead-rd., A. P. Johnson.

Swinton.—School in Queen-st. for 400 boys and six classrooms added to the senior girls' school and two practical instruction rooms. Plans by H. Wormald, A.R.I.B.A., C.A., County Hall, Wakefield.

Tadcaster.—Associated casual ward at institution. G. Fredk. Bowman & Son, architects, 18, Park-row, Leeds.

Thorne (Yorks).—Site reserved at Moorends for amusement hall.

Thornton Cleveleys.—Plans approved for school to cost £38,845, with accommodation for 280 boys and 280 girls.

Thurnscoe.—The U.D.C. propose reorganisation and alterations of the Parish Hall for provision of Council offices.

Tottenham.—U.D.C. approved: Amended drainage of 7 houses, Brantwood-rd., W. J. Woodhouse; additions and alterations, 448-454, High-rd., A. Noble & Co.; additions and alterations, 821, High-rd., G. H. Carter.

Twickenham.—Plans been prepared by H. P. Monckton for additions to factory premises of Crimony Co., in Heath-rd.

Tynemouth.—T.C. approved: 4 semi-detached houses, Broadway, St. George's estate, J. R. Wallace, for C. Brannen; 6 semi-detached houses, Manor estate, J. R. Wallace, for G. Park & Son, Ltd.; 24 semi-detached houses, Manor estate, J. R. Wallace, for H. D. Burton, Ltd.; 4 semi-detached houses, Ashleigh-grove, A. K. Tasker, for H. D. Burton, Ltd.

Walsall.—T.C. to accept contract for 78 houses, Wolverhampton-rd. site, at £23,480; also to acquire 145 acres between Field-rd., Bloxwich, and Blakenall.

Walthamstow.—T.C. approved: 8 garages, Wadham-rd., E. Field; 7 houses, Wickham-rd., J. A. Good; 5 houses and shop, Wadham-rd., Gale Bros.

Warmsworth.—P.C. propose extending the cemetery and erection of a chapel as memorial.

West Hartlepool.—T.C. approved: Harland & Parker, 5 houses, Colwyn-rd., Baden and Kimberley-sts.

Wharfedale.—R.D.C. approved: Revised block plan, Tranmere estate, Dickinson & McLean; semi-houses, The Crescent, Tranmere estate, Dickinson & McLean; 44 semi-houses, Churchfield estate, Pool, Schofield & Riddiough.

Whitworth.—The U.D.C. has to erect 24 houses, Tunnicliffe Old-rd.

Woking.—Plans passed: E. Ricks, bungalows, Westfield-av.; R. Pain & Sons, Ltd., additions in West-st and Church-st.

Worthing.—T.C. approved: 4 houses and garages, Charmandean-rd., H. Hill; 4 houses, Phrosso-rd., Parsons Bros., per J. A. Parker; 8 houses and garages, Shermanbury-rd., W. C. Butler, per H. M. Potter.

York.—Biscomb & Ferrey, 7, New-st., York, architects for licensed premises, Tang Hall, for J. J. Hunt, Ltd., brewers, Ebor Brewery, York.

"THE PAVILION OF LIGHT," OLYMPIA

On Thursday, March 27, the General Electric Co., of Kingsway, W.C.2, conducted a large party of Press representatives over their remarkable "Pavilion of Light" at the "Ideal Home" Exhibition at Olympia. This Pavilion has come into being as the result of a £1,000 competition organised by the "Daily Mail" in conjunction with the General Electric Company. The competition was open to British architects, decorative artists and electrical contractors, and many of the entrants showed exceptional originality in their designs. The principal aim has been to show the important part which lighting plays in the home and the true relationship it bears to architecture, furnishing and decoration. The "Pavilion of Light" occupies a prominent position in the New Empire Hall, opposite the main entrance. The intention of the main front has been to express the spirit of light—an aim that has admirably succeeded. Disposed about is a suite of six rooms, comprising lounge, dining-room, bedroom, nursery, kitchen and bathroom. Of the dining-room's treatment it may truthfully be said "Nothing quite like it has ever been seen before." The walls and ceilings are of black glass with a narrow rose-coloured mirror, glass strip figures as a cornice and as part of the architraves, with stainless steel skirting. The threshold of the doors is lighted from below and an etched panel lighted from behind forms a dado between the two doors. The central feature of the room is a dining table fashioned entirely of glass, the top being illuminated by light which is also projected downward upon a rectangular tank containing gold fish and aquatic vegetation. Were trout—from which to make a due selection—substituted for the gold fish, point might be given to an otherwise rather meaningless treatment. It is rather a relief to turn to the bedroom, which is designed by the same architect, Mr. Raymond McGrath, A.R.I.B.A. This combines originality with taste. Pale blue relieved with rose, this room has an illuminated wardrobe and the area of the dressing table is illuminated through the floor, while from above a large fitting sheds light on the occupant while dressing. Raised on a low dais, the canopied bed follows modern practice in shape and structure. It is the way in which it is illuminated, however, that breaks away from the orthodox. At the top of the canopy, with its abundant drapery of blue silk with white lining, a special lighting unit is set behind a panel of diffusing glass. It is an interesting idea. Another lighting unit, designed for reading purposes, is installed across the full width of the head of the bed, by whose agency a flood of soft glareless illumination is provided. The wardrobes take up no visible space, and are flush with the walls, the doors only being visible; when these doors are opened, lighting switches are automatically operated so that the whole interior is immediately illuminated.

The orderly cleanliness of the all-electric kitchen makes a strong appeal, as does also the bathroom—the last word in efficient comfort. A very pleasant room has been made of the lounge by Messrs. Taylor and Fare, F. and A.R.I.B.A. The proportions of this room are pleasing and the tones simple and unassertive. The furniture has been designed by the Bath Artcraft Company. The lighting—by means of a handsome ceiling fitting, wall brackets and pedestals (which also serve to contain "Magnet" tubular heaters)—is particularly successful. Other rooms in which points of interest may be found are the reception room, the garden lounge and the nursery. The G.E.C. are to be congratulated upon a pavilion which is not merely interesting, but stimulative of ideas. Architects and decorators—aware of the trend towards architectural lighting—should not fail to pay the Pavilion a visit. For the benefit of those who cannot get to Olympia, the G.E.C. have issued a brochure illustrated in colour and fully descriptive of the exhibit. This may be obtained upon application.

TRADE NEWS

The Ancient Stonebow, Lincoln.

Messrs. Szerelmey, Ltd., have received instructions from the borough authorities of Lincoln to carry out the restoration of the ancient Stonebow in the city, and are now engaged upon the work.

Paddington Station Improvement Scheme.

The Great Western Railway Company have made a beginning on the improvements to Paddington station, and to the adjoining station of Bishop's-road, on the Metropolitan Railway. The work will cost approximately £1,000,000, and is expected to take about two years to carry out.

Extension of Offices.

We are informed that owing to increasing business Mr. C. R. Price has found it necessary to procure more office accommodation at 107, Bishopsgate, and in future the estimating department will be on the upper floor. All communications should, however, be addressed to the firm, and the telephone number will remain London Wall 4966 (4 lines).

Extension Ladders.

The Eclipse Rail Track Ladder Co. inform us that their extension ladder business has so developed that their present works—erected in 1926—have proved inadequate An additional factory has now been acquired which will treble the floor-space available. The company hope thus to continue their policy of ever better value and improvement in design.

Municipal Extensions, Eccles, Lancs.

T.C. provisionally approved the erection of the following building works:—New Council schools, at an estimated cost of £68,800; a new fire station and dwellings for nine firemen, to cost £16,230; a branch library and public lavatory, £4,437; twelve houses, to cost £5,200; and sewer reconstruction, at a cost of £10,361; and to negotiate for the purchase of eight acres of land at Peel Green for a housing scheme.

Builders' Ironmongery.

We learn that Mr. Chas. Teuton, well known in the City of London for so many years in connection with architects' and builders' ironmongery, etc., has opened up at Putney Bridge Works, 3, High-street, Putney, S.W., where he has a very fine range of baths, stoves, ranges, sanitary goods, etc., at most economical prices. Mr. Teuton is also specialising in the equipment of housing schemes, and has in hand at the present time such schemes in Kingston and elsewhere.

Steel Firm's Extensions.

As a result of the extension of the firm's South of England activities, Mr. T. P. Sturdee has been appointed London manager for Messrs. Banister, Walton and Co., Ltd., constructional engineers and stock holders, 82, Victoria-street, Westminster, and Trafford Park, Manchester. Another interesting feature of this development of the service side is the provision of a London designing and drawing office. Architects and contractors in London and the home counties will be quick to appreciate the advantages of the closer personal contact with technical experts thus offered.

New Nile Bridge.

The Ministry of Communications has received thirteen tenders from Great Britain and the Continent for the construction of the new Kasr-el-Nile Bridge at Cairo. The lowest tender of £E213,629 was received from Messrs. Dorman Long and Company; their tender for an alternative scheme was £E250,775. The Cleveland Bridge Company quoted a price of £E254,198, with a tender of £E316,680 for the alternative scheme. Daide et Fives, Lille, quoted £E259,971, and £E336,378. Krupp's £E330,245, and £E405,982. Sir William Arrol and Co., Ltd., £E499,271 and £E559,247. The Motherwell Bridge Co., £E510,555 and £E594,165.

British Portland Cement Manufacturers.

The nineteenth ordinary general meeting of the British Portland Cement Manufacturers, Ltd., was held on March 18, at the registered offices of the company, Portland House, Tothill-street, Westminster, S.W. Mr. P. Malcolm Stewart (chairman and one of the managing directors) presided. The Chairman said the profits, including revenue from investments, amounted to £721,858, and the payment was recommended of a final dividend on the ordinary shares of 10 per cent., less tax, making, with the interim dividend of 5 per cent. already paid, 15 per cent. for the year. The results obtained were due to the steady economies and reductions effected in the cost of manufacture and to the maintenance of turnover, thanks to the successful efforts of selling organisation. The year had opened well, favoured by good weather. The demand for Portland cement was above the average for these early months, and there was evidence of much constructional work to be undertaken.

Norwich Union Annual Meeting.

The 132nd annual meeting of the Norwich Union Fire Insurance Society, Ltd., was held on March 24, at the Head Office, Surrey-street, Norwich, Sir George H. Morse, the chairman presiding. The Fire premium income for 1929 amounted to £2,179,075 net, the net claims paid and outstanding were £1,149,094, or 52.73 per cent. The total premium income from all departments was £4,261,494. In the profit and loss account the balance brought forward is £405,473 and £151,673 is credited, being the transfers from the Fire, Personal Accident, Employers' Liability and General Accounts. Interest and dividends (less tax) amounted to £204,349. After debiting dividends to shareholders, debenture interest, income tax, bad debts and £5,280 transferred to Marine Account, the sum of £16,112 is set aside for commutation of pensions, £102,500 is added to the reserve for the reduction of uncalled capital and a balance of £412,924 is carried forward. The total assets of the society amounted to £6,289,903.

A New Building Slab.

We have received particulars of what appears to be a novel and useful building slab. This is named "Heraklith," and is made of petrified wood-wool and concrete, compressed to a degree which renders it suitable for building purposes. At the same time it is impregnated with a chemical compound which renders it fireproof. The material is said to possess a great number of virtues from the building point of view, being sound-proof, very light yet not brittle, vermin-proof, non-absorbent, a good key for plastering, and non-shrinking. But the most valuable feature claimed for it is that its heat-conducting capacity is lower than for any other building material known. Wherever brick or other heavy building materials are not absolutely essential for some particular reason "Heraklith" will fulfil all requirements. The material's principal use is for partition-walls, but it can be used to great advantage for exterior walls of buildings of any kind, e.g., outbuildings, sheds, factories and workshops, cold-stores, cinema-studios, hangars, dance-halls, garages, bungalows, cottages, stables, sties, ceilings, roofs, floors, wall-panelling, etc., etc. Full details of specification and performance may be obtained from the sole distributors and licensees, Messrs. Newman and Holt, Ltd., 24, Holborn, E.C.1.

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Galv. gas.....	52½	40	35	37½	45	47½
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Galv. steam	42½	30	25	27½	35	37½

*C.I.—HALF-ROUND GUTTERS—London Prices ex Works Per yd. in 6 ft. lengths.

	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	10d.	7½d.	2½d.
3½ in.	10½d.	8½d.	2½d.
4 in.	10½d.	9½d.	2½d.
4½ in.	11½d.	10½d.	2½d.
5 in.	1/1½	11½d.	3½d.

*O.G. GUTTERS.

3 in.	1/0	10½d.	2½d.
3½ in.	1/0½	10½d.	2½d.
4 in.	1/1½	10½d.	2½d.
4½ in.	1/2½	1/0½	2½d.
5 in.	1/5	1/2½	3½d.

*RAIN-WATER PIPES, &c.

Per yd. in 6 ft.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain.....	1/2½	9½d.	1/2
2½ in. „	1/3	10½d.	1/4½
3 in. „	1/6½	1/1½	1/8½
3½ in. „	1/11	1/4½	1/11½
4 in. „	2/2½	1/7½	2/4½

*The above R.W. Goods prices are subject to an advance of 5% from October 29th, 1929.

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	2 5	1 9	2 1
2½ in. „	2 9½	1 10½	2 7
3 in. „	3 0	2 1	3 1
3½ in. „	3 3	2 7	3 7
4 in. „	3 8	2 11	4 1½

L.C.C. COATED DRAIN PIPES—London Prices ex Works

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9ft. lengths	3 6	4 6	7 0
4 in. „ „	4 8	5 5	9 3
5 in. „ „	6 3	9 6	15 0
6 in. „ „	7 3	11 6	19 0

Gaskets for jointing, 41/- per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common bars.....	11 0 0	to	12 0 0
Staffordshire Crown Bars—Good merchant quality	11 10 0	to	12 10 0
Staffordshire Marked Bars.....	14 0 0	...	15 0 0
Mild Steel Bars	10 0 0	...	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	9 10 0	...	10 10 0
Hoop iron, basis price	11 10 0	...	12 10 0
„ Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g....	11 10 0	...	12 0 0
„ „ „ 24 g....	13 0 0	...	14 0 0
„ „ „ 26 g....	15 0 0	...	16 0 0
Sheets Flat Best Soft Steel, C.R. and C.A quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 0 0	...	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.....	16 0 0	...	17 0 0
Ordinary sizes, 6 ft. by to 3 ft. to 26 g....	18 0 0	...	20 0 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—

Ordinary sizes, 6 ft. to 9 ft. to 20 g.	15 10 0	...	16 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	16 0 0	...	17 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	19 0 0	...	20 0 0

Sheets Galvanised Flat, Best quality—

Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	21 0 0	...	22 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	23 0 0	...	25 0 0
Best Soft Steel Sheets, 26 g.	24 10 0	...	25 10 0
Cut Nail „ 3 in. to 6 in.....	16 0 0	...	17 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete house including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)

	£ s. d.
LEAD—Sheet. English, 4 lb. and up	28 0 0
Pipe in coils	28 10 0
Soil pipe	31 10 0
Compo pipe	32 10 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	£17 10 0

COPPER.

	s. d.
Seamless Copper tubes (basis)..... per lb.	1 3
Strong sheet ..... „	1 0
Thin..... „	1 1
Copper nails ..... „	1 11
Copper wire ..... „	2 0

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	4 in.
7/6	10/-	14/-	23/-	30/- 42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
11/-	17/-	29/-	36/-	62/- per doz.	

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps ...	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps ...	35/-	45/-	60/-	126/- „

TIN.—English Ingots, 2/3 per lb. SOLDER.—Plumber's 1/-, Tinmen's 1/2, Blowpipe 1/3 per lb.

PAINTS, &c.

Raw Linseed Oil, in pipes	per gallon	0 3 7	
„ „ „ in barrels ...	„	0 3 9	
„ „ „ in drums ...	„	0 3 11	
Boiled „ „ in barrels ...	„	0 3 11	
„ „ „ in drums ...	„	0 4 1	
Turpentine in barrels	„	0 4 9	
„ in drums (10 galls)	„	0 4 2	
Genuine Ground English White Lead, per ton (in not less than 5-cwt. casks.)		52 0 0	

Extra for 1-cwt. kegs over 5-cwt. casks is 5/0 cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

PAINTS, &c. (*contd.*)

		£ s. d.
GENUINE WHITE LEAD PAINT. "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganwyte," "Polaco," "J." Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots	per ton delivered...	71 10 0
Red Lead, Dry (package extra) ...	per ton	39 0 0
Best Linseed Oil Putty	per cwt.	0 15 6
Fillcoil	,,	0 16 6
Size. XD quality	ftn.	0 3 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.
15 oz. fourths ... 2½d.	32 oz. fourths	6½d.
15 ,, thirds ... 3½d.	32 ,, thirds	9d.
21 ,, fourths ... 3½d.	Obscured Sheet, 15 oz....	3½d.
21 ,, thirds ... 4½d.	,, ,, 21 oz....	4½d.
26 ,, fourths ... 4½d.	Fluted, 15 oz. 7d., 21 oz.	9½d
26 ,, thirds..... 6½d.	Rm'lled, 15 oz. 4½d., 21 oz. 6d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
¼ Rolled plate	4½d.
⅜ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White ...	5½d.
Ditto, tinted	8½d.
Rolled Sheet	4½d.
White Rolled Cathedral	5d.
Tinned do.	7d.

Cast plate is same price as rough rolled.

"VITA" GLASS IN CRATES.

	Per foot. s. d.
Clear sheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. not exceeding 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide	2 6

VARNISHES, &c.

		Per Gallon £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Opal Carriage	ditto	1 4 0
Best ditto	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 12 0
Best ditto	ditto	1 2 6
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 6
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 0
Berlin Black		0 14 0
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Turebene		0 9 0
Cuirass Black Enamel		0 7 0

PATENTS

APPLICATIONS PUBLISHED.

324,312.—A. Sprenger: Producing highly refractory masses.

324,374.—Dr. M. I. Aische: Reclaiming plaster of Paris.

324,380.—J. Proctor: Drying of green clay goods.

324,320.—Bindphast Products, Ltd., and J. A. Greene: Manufacture of solid bodies from disintegrated alabaster, gypsum and marl.

299,423.—J. E. Woods: Machine for waxing, polishing, painting and staining, treating surfaces.

324,364.—J. P. Asmussen: Machine for casting building-blocks.

324,369.—J. W. Evans, and R. W. Freakley: Windows.

324,451.—S. C. Awbrey: Securing brick and stone facings to concrete walls.

324,452.—H. E Brown: Wood-block floorings.

324,475.—P. G. Barden: Spray-painting apparatus.

324,499.—F. Sands: Elevator.

307,882.—Associated Electrical Industries, Ltd.: Lifts.

309,035.—K. Nolte: Iron sheet-piling walls.

Note.—Period for opposition expires April 5, 1930.

NEW BUILDINGS IN SCOTLAND

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at* THE BUILDER *office not later than Tuesday evening.

Edinburgh.—BUILDING WARRANTS.—The Edinburgh Dean of Guild Court has granted building warrants, including the following:—G. Stuart M'Donald, five double bungalows at Redford-road, Colinton; Union Corner Stores (Ltd.), alteration at 24 and 25, Union-place, and 2, Union-street; Waverley Garage (Edin.), garage at 5, 7 and 8, Market-street.

Edinburgh.—HOUSES.—A scheme for the erection of 100 houses in the city has been considered by a sub-committee of the Treasurer's Committee of Edinburgh Town Council, and it was resolved to recommend approval. The houses will be of two and three rooms, and 26 will be built at Gilmerton, 24 at Stenhousemills, and the remainder at Lochend, Longstone, Colinton and Juniper Green.

Elgin.—ROAD.—The Elgin Town Council has prepared three schemes, involving an outlay of £15,480, for improvements of the main road from Aberdeen to Inverness.

Glasgow.—BUILDING.—The Glasgow Dean of Guild Court has approved the following work:—Govan District Board of Control, boiler-house, Hawkhead Asylum; R. T. Wilson and Sons, builders, Halfway, Paisley-road, Cardonald, 15 houses at Randolph-road, Broomhill; Church of Scotland, Presbytery of Glasgow, hall at Castlemilk-road, Cathcart.

Glasgow.—BRIDGE.—The Statute Labour Committee of Glasgow Town Council has agreed to proceed with the construction of the new bridge over the Clyde at Finnieston on the original lines laid down.

Lanarkshire.—HOUSES.—Proposals to erect almost three hundred houses under improvement schemes for the rehousing of tenants in insanitary dwellings have been considered by the Middle Ward Committee of Lanark County Council. A number of the schemes were approved.

British Steelwork Contracts.

Messrs. Dorman, Long and Co., of Middlesbrough, have received an order for 5,000 tons of constructional steel work for a new hotel to be built at Shanghai. The firm has also secured the contract for the new bridge across the Nile.

The British Steelwork Association announce that a contract has been secured by Messrs. Braithwaite and Company (India), Ltd., for the manufacture and erection at site of 10,000 tons of steelwork for the bridge over the Irrawaddy, some nine miles from Mandalay. The bridge, which has been designed by Messrs. Rendel, Palmer and Tritton, consists of nine spans 360 ft. in length and one span 260 ft. in length and carries a single line of metre-gauge railway and two roadways 12 ft. in width.

BUILDING TRADE WAGES IN SCOTLAND*

The following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'‡ Bricklayers'† Plasterers'†
Aberdeen	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Airdrie	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Alexandria	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Arbroath	1/6½	1/6½	1/6½	1/7½	1/8½	1/6½	1/5½	1/1
Ayrshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bathgate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2 to 1/3
Berwickshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/8	†1/2½
Broughty Ferry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Clackmannanshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Coatbridge	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Dumbartonshire	1/7	1/8	1/7	1/7	1/7	1/7	1/7	1/2½
Dumfries	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/6½	1/2
Dumfriesshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dundee	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Dunoon	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
East Lothian	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Edinburgh	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Forfarshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/6½	1/7	1/6½	1/7	1/6½	1/6½	1/7	1/2
Glasgow	1/7	1/8	1/7	1/7	1/7	1/7	1/7	1/2½
Greenock	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Hamilton	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Inverurie	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Kincardineshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kinross-shire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanarkshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Mid Lothian	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Motherwell	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Peeblesshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Perth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Perthshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Peterhead	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2
Renfrewshire	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rothesay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Roxburghshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Andrews	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Selkirkshire	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stirling	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Stirlingshire (Eastern District)	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stornoway	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Lothian	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wishaw	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 685

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors and partitions	" "	6	0
Do. trusses	" "	8	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-
Flat centering for concrete floor, including struts or hangers	"				50 0
Do. to beams	per ft. sup.				0 11
Centre for arches	"				1 6
Gutter boards and bearers	"				1 0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.	—	44/6	53/-	60/6
Do. tongued and grooved	"	—	49/-	57/6	65/-
Do. matchings	"	45/-	51/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	"	3	9

DOORS.

		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1½ in.	per ft. run	0	9
Mahogany handrail : average, 3 in. × 3 in.	" "	6	0
Add if ramped	" "	12	0
Add if wreathed	" "	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roofwork	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	44	0
Do. Do. in flats	"	43	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	3
Copper nailing	" "	0	3

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	6
Do. Do. Sirapite	" "	2	9
Do. Do. Keen's	" "	4	0
Add saw lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, etc. for suspended ceilings.)			
Portland cement screed	" "	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic paving	per yard sup.	5	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	" "	1	0
Obscured sheet	" "	1	1
¼-in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼-in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW COMPANIES

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

Arthur Hemming & Son, Ltd. (245,726). Registered February 13. 1490, Coventry-road, South Yardley, Birmingham. Builder and contractor. Nominal capital, £9,000.

J. Cunliffe & Co., Ltd. (245,738). Registered February 13. Builders' merchants, etc. Nominal capital, £7,000. J. E. Cunliffe, The Croft, Home Drive, Alkrington, Middleton.

J. A. McCrea & Sons, Ltd. (245,737). Registered February 13. 55, Brown-street, Manchester. Heating, ventilating and sanitary engineer, plumber and glazier. Nominal capital, £5,000.

A. E. Bailey & Sons, Ltd. (245,756). Registered February 14. 5, Witherington-road, Highbury, N.5. To acquire land and hereditaments of any tenure in England or Wales; to erect and construct houses, buildings, etc. Nominal capital, £5,000.

F. J. Baynes & Co., Ltd. (245,841). Registered February 17. 99, St. Paul's-road, N.1. Heating, ventilating, electrical and general engineers, etc. Nominal capital, £100.

Roy Gibson, Ltd. (245,813). Registered February 15. 34, Bedford-row, W.C.1. To acquire the freehold mansion house, buildings and land known as Templeton House, Priory-lane, Roehampton; to lay out land for building purposes, etc. Nominal capital, £5,000.

C. Smith & Co., Ltd. (245,833). Registered February 17. Builders and contractors, etc. Nominal capital, £2,000. H. G. Cruse, 23, Riggindale-road, Streatham, S.W.16.

Ruddlesdens, Ltd. (246,438). Registered March 11. Bradford-street, Dewsbury. Decorators' merchants, painters and decorators, etc. Nominal capital, £8,500.

Yatelands, Ltd (246,386). Registered March 8. 746, High-road, Tottenham, N.9. Building estate owners, builders and contractors, etc. Nominal capital, £6,000.

H. Sitch & Son, Ltd. (246,366). Registered March 8. 48, Hurst-road, Erith. Builders, decorators and contractors. Nominal capital, £200.

C. E. Truett & Co., Ltd. (246,356). Registered March 8. To acquire any lands and buildings, or any estate or interest therein; to lay out land for building purposes, etc. Nominal capital, £1,600. W. T. Mills, 20, Birchwood-road, S.W.17.

Cleveland Tar Distillers, Ltd. (246,357). Registered March 8. Nominal capital, £5,000. S. M. Sutcliffe, Oakridge, White Knowle-road, Buxton.

Red Hand Compositions, Ltd. (246,342). Registered March 7. General-buildings, Aldwych, W.C.2. Manufacturers and inventors of paints and compositions, colours and varnishes, etc. Nominal capital, £100.

Basildon Brick Works, Ltd. (246,253). Registered March 5. Audley House, Margaret-street, Cavendish-square, W.1. Nominal capital, £15,000.

Granville Building Co., Ltd. (246,332). Registered March 7. Nominal capital, £100. J. T. Crane, 51, Cromwell-road, Peterborough.

F. W. Bristow & Son, Ltd. (246,292). Registered March 6. 5, Clement's-inn, W.C.2. Builders and contractors, etc. Nominal capital, £1,000.

East Kent Construction Co., Ltd. (246,291). Registered March 6. General contractors or engineers, etc. Nominal capital, £2,000. F. S. Gann, Graystone, Saddleton-road, Whitstable.

Spray Painters, Ltd. (246,275). Registered March 5. 195a, Earl's Court-road, S.W.5. Nominal capital, £1,000.

Suburban Shop Properties, Ltd. (246,277). Registered March 5. 119, Brent-street, Hendon, N.W.4. Builders and contractors, etc. Nominal capital, £5,000.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office*.

Appleby.—Alterations to the Council school, for the Lindsey E.C. Mr. H. G. Gamble, F.R.I.B.A., County Architect, Bank-street-chambers, Lincoln:—

A. E. Thornhill, Lincoln	£1,700 0
T. George & Sons, Brigg	1,505 18
W. Horton, Lincoln	1,425 4
S. Bowins, Scunthorpe	1,336 0
H. Ashton, Barton-on-Humber	1,302 4
W. A. Major, Sturton-by-Stow	1,282 0
Quibell & Hardy, Ltd., Scunthorpe	1,252 16
L. J. Routh, Scunthorpe	1,219 0
T. Jenkinson & Sons, Ltd., Doncaster	1,185 17
†Stamp & Sons, Barton-on-Humber	1,094 0

Bath.—For building work at West Central school, for the E.C.:—

*Chancellor & Sons £278

Beeston.—133 houses off Woolaton-road, for the U.D.C. Mr A. E. Bush, surveyor:—

*H. R. Hofton & Sons, Beeston (67) £21,305
*J. H. Brough & Co., Beeston (66) ... 21,596

Berwick-on-Tweed.—Sixteen houses on the west side of Prince Edward-road, Tweedmouth, for the T.C.:—

Builder—*T. Gardiner.
Carpenter—*J. Mace.
Slater—*T. Turner.
Plumber and gas fitter—*Wm. Cairns.
Plasterer, etc.—*D. Watson.
Painter—*J. Crow & Son.
Electrical—*Urban Electrical Supply Co., Ltd.

Birmingham.—Branch bank and other premises at the corner of Station-road and Lyttelton-road, Stechford, for the T.C. Messrs. F. B. Andrews & Son, architects, 95, Colmore-row:—

C. Twigg	£4,850
G. Webb & Son, Ltd.	4,687
John Dallow & Sons	4,655
S. F. Swift & Sons, Ltd.	4,572
T. Elvins & Sons, Ltd.	4,570
Jones & Spencer, Ltd.	4,500
A. Hemming & Sons, Ltd.	4,495
G. Mobbs	4,474
E. G. Brown & Sons	4,467
W. & J. Webb	4,376
Joseph I. Fitter	4,368
Maddocks & Watford	4,308
A. Pearce & Son	4,300
*C. Bryant & Son, Ltd., Small Heath	4,285
William Bishop	4,277
Francis H. Smith	4,265
Morris Jacombs & Sons	4,100

(All of Birmingham.)

Blackburn.—Enlargement of St. Mary's College, Shear Bank-road, for the Governors. Mr. H. Greenhalgh, architect, 15, Mawdesley-street, Bolton:—

*Wearing, Blackburn.

Brinscall, near Chorley.—Rebuilding of the new day and Sunday school, School-lane, Brinscall, near Chorley, for the Wesleyan authorities. Messrs. Brocklehurst & Co., F.R.I.B.A., architects, 10, Norfolk-street, Manchester:—

W. Leigh, Brinscall, near Chorley.

Bristol.—Extension of the administrative offices, Royal Edward Dock, Avonmouth, for the Port Authority. Mr. T. A. Peace, Chief Engineer:—

*Bushell & Co., South Liberty, Bristol.

Cardiff.—Extensions to Spotlands library, for the T.C. Mr. Geo. H. Whitaker, City Engineer, Architect and Surveyor. Quantities by the City Engineer:—

‡Watts & Gale, Ty-wern-road, Whitchurch, Cardiff £4,220

Carlisle.—Warehouse in Botchergate, for the Carlisle and South End Co-operative Society, Ltd. Mr. S. W. B. Jack, architect, Lloyds Bank-chambers, 19, Lowther-street:—

*J. & R. Bell.
Joiner—*G. Simpson & Son.
Plumber—*Sharp Bros.
Plasterer—*J. Robinson & Son.
Painters—*R. M. Hill & Son.
Steelwork—*Redpath Brown, Ltd., Newcastle-on-Tyne.

(Remainder of Carlisle.)

Carlton (Notts).—New Church of the Sacred Heart, for the R.C. authorities. Messrs. Bedingfield & Grundy, architects and surveyors, Museum-square, Leicester:—

*F. J. Bradford, Leamington-street, Leicester.

Chelmsford.—124 houses on the Boarded Barns estate, for the T.C. Mr. J. Miles, Borough Engineer:—

*A. E. Guest, Ltd., Hornsey-road, London, N.19 ..... £40,864

Coventry.—Shopfront at 99, Cross Cheaping, for Messrs. Modern Wallpapers, Ltd.:—

*A. Edmonds & Co., Ltd., Constitution Hill, Birmingham.

Donny.—Widening of Beck Bridge, for the Lancashire C.C. County Surveyor, County Offices, Preston:—

*Walter Jowett, "Ingledene," Lane Ends, Prescot.

Didsbury.—Block of flats at the corner of Fog-lane and Princes-avenue, for Mr. H. O. Mortimer:—

*Roughcast Building Co., Ltd., Manchester.

Doncaster.—Painting the line of waterworks between Thrybergh, Firsby, and Doncaster, for the C.B. Mr. F. O. Kirby, Water Engineer, 2, Priory-place:—

*McLaren Bros., Rotherham-road, Maltby.

Downham Market.—Reconstruction of Welmore lake sluice on River Delph, for the Ouse Drainage Board. Mr. G. E. Matthews, Engineer to Board, 90, Hills-road, Cambridge:—

Sir Lindsay Parkinson & Co., Ltd.	£23,902 2 8
K. Holst & Co.	19,245 0 0
A. E. Farr	16,720 0 0
Lotz & Kier, Stoke-on-Trent	15,653 8 0
Bierrum & Partners	14,325 0 0
Christiani & Nielsen	14,195 0 0
*L. J. Speight, Ltd., Sardinia-street, Kingsway, W.C.2	16,339 7 1

(All of London.)

Dukinfield.—Elementary school in Lakes-road, for the E.C. Mr. Percy Howard, A.R.I.B.A., architect, 88, Mosley-street, Manchester:—

*T. Warrington, Hyde, Ches.

Edinburgh.—Shops on a site in St. John's-road, Corstorphine. Mr. James Gray, A.R.I.B.A., architect, 140, Princes-street:—

*Smith & Murdoch, Kirk Loan, Corstorphine.

Ennis.—Repairs to cottages, for the U.D.C.:—

*P. McMahon £277

Ennis.—Eight four-roomed dwellings in the Home Barrack, for the U.D.C.:—

*P. McMahon £1,468

Fareham.—Six houses at North Boarhunt, for the R.D.C.:—

*Humby, Ltd., Farlington £2,196

Ferrybridge.—Electrical installation to all the Council houses on the Wentcliffe estate, for the R.D.C.:—

*F. S. Baxter £326

Fleetwood.—School, for the Lancashire C.C. Mr. Stephen Wilkinson, F.R.I.B.A., County Architect, 16, Ribblesdale-place, Preston:—

*J. W. Lee, Ltd., Chorley £29,370

Flixton.—Sunday school in Iriam-road, for the Rector and Wardens of the Parish Church. Mr A. McCutcheon, architect, 4, Chorlton-street, Portland-street, Manchester:—

*J. F. Moore, Ltd., Eccles £2,568

Glasgow.—For shop fitting at stores, for Messrs. Earl & Earl. Mr. Joseph Emberton, A.R.I.B.A., architect, 136, Regent-street, W.1:—

*Bath Cabinet Makers' Co., Ltd., Bath.

Great Yarmouth.—Shopfront at 110, Regent-road, for Messrs. Modern Wallpapers, Ltd.:—

*A. Edmonds & Co., Ltd., Constitution Hill, Birmingham.

Helsby.—Ten parlour and twenty-four non-parlour type houses, for the Runcorn R.D.C. Engineer and Surveyor:—

*Thomas Warrington & Sons, Ltd., King-street, Ellesmere Port.

Hursley.—Eight houses at Fryern Hill, Chandler's Ford, for the R.D.C.:—

*J. Foot & Sons, Baddesley £3,000

Ilkley.—Office and storeroom, at the Gas Works, Leeds-road, for the U.D.C. Mr. E. L. Gaunt, A.R.I.B.A., architect, 11, The Grove:—

Masons' work—*G. Bishworth & Sons, Addingham.
Joiner's work—*W. C. Dawson, Ben Rhydding.
Plumber's work—*W. Lawson, Ilkley.

Irvine.—Sea outfall sewer, intercepting sewer round the north-east of the Burgh, intercepting sewer round south-east of the Burgh, etc., for the T.C. Messrs. Gilbert Thompson & Son, chartered civil engineers, 164, Bath-street, Glasgow, C.2:—

*Henry Boot & Sons (Scotland), Ltd., 140, West George-street, Glasgow, C.2.

Keighley.—100 houses on the Highfield and West-lane site, for the T.C.:—

‡Ernest Turner, Ltd., Keighley.

Killarney.—Ten houses, front, back, and gable walls of masonry, cement-plaster finished, other walls in solid concrete, for the U.D.C.:—

*John O'Connor.

Kirkby Lonsdale.—Public lavatories for the U.D.C. Mr. W. E. R. Thomas, surveyor:—

*F. C. Muff & Son, Bode House, Coates, Barnoldswick £845 12 5

Knottingley.—Alterations and additions to "The Grange," for Messrs. Bagley & Co. (Trust), Ltd. Messrs. R. A. Esdaile & Son, architects and surveyors, County-chambers, Castleford:—

*C. H. L. Bramham, Brotherton, near Ferrybridge.

Leamington Spa.—Restoration of the Town Hall, for the T.C.:—
*A. Dreyfus, Ltd., London £1,225

Leeds.—Nursery school at Thwaite-gate, Hunslet, for the E.C.:—
*J. W. Shippen & Sons, Ltd.

Leeds.—For (1) 150 houses and flats at Middleton, and (2) 132 houses and flats on the Dewsbury-road estate, for the T.C. Mr. J. E. Acfield, City Engineer:—
(1)—*W. F. Clough, West Ardsley, near Wakefield.
(2)—*W. J. & R. Turnbull, Leeds.

Leicester.—Lancashire boilers, economisers, feed pumps, hot and cold water tanks, pipe connections, valves, etc., at the isolation hospital, for the T.C. Mr. A. T. Gooseman, City Engineer and Surveyor:—
*D. Bentley & Co. (Leicester), Ltd., Western-road, Leicester £3,361

Leicester.—Alterations to Syston-street schools, for the E.C. Mr. J. L. Thompson, A.R.I.B.A., Education Surveyor's Office:—
*Chitham & Co., Leicester £3,800

Leicester.—Garages at the cattle market, for the Corporation:—
*E. J. Cox & Son, Leicester £488

Leicester.—Alterations at the Woodboy-street branch police station, for the Corporation. Mr. A. T. Gooseman, Borough Engineer:—
*J. Jelley & Son, Leicester £1,042

Leyland.—Twenty-two semi-detached non-parlour type houses in Mead-avenue, Sandy-lane estate, for the U.D.C. Mr. M. H. Wilkinson, surveyor:—

E. Tomlinson & Son	£8,700 0
P. Baines & Son, Preston	8,052 0
Wm. Hampson, Chorley	8,426 0
A. M. Tomlinson	8,492 0
Marland Bros.	8,470 0
John Tomlinson, Ltd.	8,379 16
A. Threlfall	8,206 0
Brailsford Bros.	8,511 5
George Cross	8,626 0
*Leyland Construction Co., Ltd., Balcarres-road	7,986 0

(*Remainder of Leyland.)

Liverpool.—Temporary library building on the Norris Green estate, for the T.C.:—
*Director of Housing £1,008

Liverpool.—House for the Land Agent and two cottages for workmen in the parish of Llanwddyn, Mont., for the T.C. Water Engineer:—
*W. Higley, Port Hill, Shrewsbury ... £2,274

Liverpool.—Conversion of the upper portion of 2a, Salisbury-street, and Islington, into flats, and the provision of a new shopfront, for the T.C.:—
*Rimmer Bros., Dalton-street, Liverpool £670

Liverpool.—Electric sub-station in Thingwall-lane, for the T.C.:—
*J. Williams (Liverpool), Ltd., 70, Collingwood-street, Liverpool £724

Liverpool.—Six shops with a hall over, in Utting-avenue East, Norris Green estate, for the T.C. Director of Housing:—
*Rimmer Bros., Dalton-street, Liverpool £6,213

Liverpool.—21 dwellings in Great Richmond-street, for the T.C. Director of Housing:—
J. Lewis, 13a, Laurel-road, Fairfield, Liverpool £11,750

Liverpool.—Iron railings and entrance gates for the Scargreen-avenue playing field, for the T.C.:—
*W. Gratrix & Sons, Walkden.

Llandrindod Wells.—Alterations and extensions to the Rock Park Pavilion, for the U.D.C.:—
*W. A. Baker & Co. (1910), Ltd., Westgate Ironworks, Newport (Mon.). ... £992

¶**London.**—The following contracts have been entered into by H.M.O.W. Department during the week ended the 29th instant:—
Reading District—ordinary works and repairs—W. A. Murley, 68, London-street, Reading.
Kinning-Park employment exchange—erection—J. McDonald (Contractors), Ltd., East Kilbridge-road, Burnside, Rutherglen.
Seething-lane G.P.O.—alterations—J. Greenwood, Ltd., 14, Arthur-street, E.C.4.
Kilmarnock employment exchange—erection—L. B. White, Burnside, Mossend, Bellshill.

¶**London.**—The following works contract has been placed by the War Office during the week ending March 27:—
Shorncliffe, Somerset Barracks—dining room, wash-up, etc.—R. J. Barwick, Dover.

¶**London.**—Tender accepted by H.M. Air Ministry:—
Balustrading, Officers' Mess, Singapore—T. W. Palmer & Co., Church-road, Merton Abbey, S.W.19.

London.—Extensions to "The Royal" hotel, Holland Park-avenue, W.11. Mr. Nowell Parr, F.R.I.B.A., architect, 42, Cranley-gardens, South Kensington, S.W.7:—

H. L. Holloway & Son	£7,788
T. H. Adamson & Sons	7,623
W. J. Dickens	7,200
Holliday & Greenwood, Ltd.	7,198
G. Godson & Sons, Ltd.	7,150
*Joseph Dorey & Co., Ltd., Brentford	6,779

(Remainder of London.)

London.—Shop fitting to premises in Oxford-street, W.1, for Messrs. Bourne & Hollingsworth. Plans by studio department:—
*Bath Cabinet Makers' Co., Ltd., Bath.

London.—New dust shoots on the site adjoining Chancellor's-wharf, for the Hammersmith B.C. Mr. R. Hampton Clucas, Borough Engineer & Surveyor:—

J. Shelbourne & Co., Ltd.	£3,755 7 6
Willment Bros.	3,268 4 0
A. E. Farr	3,229 18 3
D. G. Sommerville & Co.	3,016 12 8
Tileman & Co., Ltd.	2,994 12 2
*Demolition & Construction Co., Ltd., 74, Victoria-street, S.W.1	2,789 12 7

(All of London.)

London.—Recreation hall at receiving homes in Wanstead, for the West Ham B. of G. Mr. George A. Allan, F.R.I.B.A., architect and surveyor, 8, Gray's Inn Square, W.C.1.:—

G. H. Miller & Co.	£5,594 9
H. Parkinson & Co.	5,475 0
J. C. Mather & Son	5,379 0
E. Pollard & Co.	5,275 0
W. J. Clemans	5,269 10
E. King, Ltd.	5,248 0
F. & J. Fox	5,196 0
F. J. Coxhead	5,154 0
R. J. Truscott	5,149 0
J. Parsons	5,127 0
Robertson & Cameron	4,998 0
R. Woollaston & Co.	4,923 0
J. & J. Dean	4,776 0
†E. A. Russell, Ltd., Boundary-road, Walthamstow	4,753 15

London.—Installation of hot-water heating apparatus at the new County Secondary school at Homestall-road, Peckham, for the L.C.C.:—

	Materials from any source.	*Alternative for certain British materials.*
J. & F. May	—	£2,532
Saunders & Taylor, Ltd.	£2,167	2,167
Thames Bank Iron Co., Ltd.	2,070	2,070
The Brightside Foundry and Engineering Co., Ltd.	1,939	1,939
W. G. Cannon & Sons, Ltd.	1,889	1,889
Wm. Griffiths, Sons & Cromwell, Ltd., 400c, Caledonian-road, N.7	1,756	*1,760

Architect's estimate, £1,900.
(All of London.)

Lyme Regis.—House at Sidmouth-road. Mr. G. F. Popplewell, architect, Raymonds-hill, Axminster. Quantities by the contractor:—
*A. & F. Wiscombe, Lyme Regis £1,815

Henderson"
SLIDING
DOOR
GEAR
BRITISH
PATENTED
LUBRICATORS AND VERTICAL ADJUSTMENT.
"NON CLOG" BOTTOM GUIDE.
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GRANGEWOOD 0247
PRIVATE BRANCH EXCHANGE

Manchester.—Erection of Briscoe-lane Municipal school, Newton Heath, for the E.C. Manchester Education Committee:—
†S. & J. Smethurst, Ltd., Rochdale, Oldham.

Manchester.—Substation at Cumberland-street, for the Corporation. Mr. H. C. Lamb, Chief Engineer and Manager, Electricity Department:—
Steelwork—Royce, Ltd., Manchester.

Marlow.—Construction of about eleven miles of 12-inch, 9-inch and 6-inch cast-iron and stoneware pipe sewers, for the U.D.C. Messrs. A. P. I. Cotterell & Son, engineers, 54, Victoria-street, Westminster, S.W.1. Quantities by Mr. Robert C. Mathew, F.S.I., Bedford-row House, W.C.1:—

Aubrey Watson, Ltd., Westminster	£58,784 9 9
Langley & Johnson, Slough	53,527 5 2
Sir William Prescott & Sons, Ltd., Tottenham	51,718 10 10
Thomas Free & Sons, Ltd., Frenchay, Bristol	46,462 3 11
W. & C. French, Buckhurst Hill, Essex	45,581 2 1
George Bell & Sons, Ltd., Tottenham	44,909 0 0
H. Coxhead & Co., Ltd., Birmingham	44,444 15 10
George Wimpey & Co., Ltd., Hammersmith	44,052 6 4
G. H. Gibson & Sons, High Wycombe	41,956 0 0
Dare Alkin & Co., Ltd., Westminster	36,910 0 0

Mexborough.—Conversion of existing sanitary conveniences and provision of additional accommodation, for the U.D.C.:—
*O. E. Weaver £2,280

Mexborough.—Church, for the Very Rev. Canon Leteux, St. Alban's Church, Denaby Main, near Rotherham, and also a club and steward's house. Messrs. Holtom & Fox, architects, Corporation-street, Dewsbury:—
*Robinson & Sons & Nephew, Denaby Main, near Rotherham.

North Cork.—Repairs to (*a*) Boherbue medical residence and (*b*) Mill-street dispensary residence, for the Board of Health:—
(*a*)—*M. P. Murphy £550
(*b*)—*D. McSweeney 475

Oakham.—6 houses at Exton, for the R.D.C. Mr. G. Dolphin, architect, North-street, Uppingham—
*F. W. Porter, Colsterworth, Grantham £1,863

Oldham.—Storeroom on the Market ground, Tommyfield, for the Corporation. Captain J. Ashurst, Borough Engineer and Surveyor:—
*S. Ashton & Sons, Ltd., Oldham.

Pontefract.—8 houses at Grayshield, for the R.D.C.:—
Brickwork—
*R. K. Poskitt £1,449
Joiner—
*J. Robinson 611
Tilers—
*Stewart Bros. & Son 200
Plumbers—
*Atkin & Featherstone 276
Plasterers—
*T. W. Senior & Sons 189

Pudsey.—7 houses at Ash-grove, South Parade:—
*W. J. Kendall & Co.

Rotherham.—Twelve houses at Aughton, and eight at Catcliffe, for the R.D.C. Mr. C. O. Rawstron, engineer and surveyor:—

J. W. Gray, Rotherham	£7,640
Coe & Lorriman, Rotherham	7,411
R. Snell & Sons, Rotherham	7,200
H. Godley, Bramley	6,675
T. Holmes, Dinnington	6,410
W. Memmory, Swallownest	6,380
J. Turner & Sons, Beighton	6,370
Mollekin Bros., Maltby	6,350
W. Blair, Rotherham	6,240
Melling Bros., Sheffield	6,080
*A. J. Pugh, Rawmarsh	5,800

Rothwell.—Building work on the various estates, for the U.D.C.:—
Rothwell Haigh—*A. Armitage & Co.
Carlton and Thorpe—*J. Chapman & Sons.
Lofthouse—*T. H. Bennett & Sons.
Plumbing—*J. Heaton.

Scunthorpe.—Additions to the Modern School, Cole-street, for the Lindsey (Lincs) C.C. Mr. H. G. Gamble, County Architect, Bank-street-chambers, Lincoln:—

W. A. Major, Sturton-by-Stow	£12,549 0 0
Gilbert & Hall, Ltd., Nottingham	10,600 0 0
W. Pallister, Ltd., Scunthorpe	9,998 0 0
Quibell & Hardy, Ltd. Scunthorpe	9,929 12 1
J. H. Thompson, Ltd., Scunthorpe	9,915 0 0
H. Ashton, Barton-on-Humber	9,656 18 7
F. W. Horton, Lincoln	9,554 11 5
J. Harvey, Mansfield	9,280 0 0
†T. Jenkinson & Sons, Ltd., Doncaster	9,182 13 3

South Shields.—New elementary school for 854 scholars on the Cleadon Park estate site, for the E.C.:—
*Wm. Hall, Ltd., Gateshead £18,246

Southend-on-Sea.—Rebuilding and improvement of the Middleton Hotel, for Messrs. Mann, Crossman & Paulin :—

*C. S. Foster, Smart's-lane, Lough-Essex	£31,500

(Not as stated in our March 21 issue.)

Southwell.—Sewer.—340 yds. of 6-in. stoneware and cast-iron pipes, together with construction of necessary manholes, in Newark-road, for the R.D.C. Mr. S. Cooper, surveyor :—

C. Williamson & Co., Ltd., Nottingham	£526 5 9
H. H. Barry, Radcliffe-on-Trent	445 10 0
H. Loach, Carlton	439 14 4
H. Ashley, Mansfield	425 0 0
W. S. Clipsham, North Muskham	403 17 0
E. Somerfield & Sons, West Bridgford	394 11 6
R. Lee, Southwell	392 0 0
*H. G. Hutchinson, Lower Kirklington-road, Southwell	389 17 6

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Stoke-on-Trent.—Shops and offices in Londdale-street, for the T.C. Mr. A. Burton, Borough Surveyor :—

*Ball & Robinson, Stoke-on-Trent	£13,592

Stoke-on-Trent.—Fifty houses on Swan-lane site, Trent Vale, for the T.C. :—

*Ball & Robinson, Trent Bridge	£19,211

Swansea.—Alterations and improvements to premises at Portland Buildings, for the South Wales Furnishers, Ltd. Mr. Sydney Crocker, L.R.I.B.A., architect, Rochester House, Portland-street :—

Billings & Sons, Trafalgar-yard, Oystermouth-road, Swansea.	

Twickenham.—Alterations and additions to the administration block and discharge block at the infectious diseases hospital, for the B.C. :—

	Administration block	*Discharge block*
Speechley & Smith	£347	£43
F. D. Hidden & Co., Ltd.	300	36
Knight & Son	269	40
*A. Lake, senior	245	30

Tynemouth.—Dismantling the temporary wooden school building at Priory school, and re-erection on a site adjacent to Christ Church school, Albion-road, North Shields, for the C.B. :—

*Ball Bros., North Shields.	

Wakefield.—Two houses in Carr-lane. Mr. Herbert Dobson, architect, City-chambers :—

*Geo. A. Nicholson, 80, Welbeck-street, Wakefield.	

Wakefield.—School, consisting of three departments at Snapethorpe, for the T.C. Mr. P. Morris, L.R.I.B.A., City Architect :—

*G. Cook & Son, Wakefield.	

Wallsend.—Catholic school, for the R.C. Authorities. Messrs. P. J. Steinlet, L.R.I.B.A., and J. C. Maxwell, F.R.I.B.A., architects, 5, Saville-chambers, North Shields, Newcastle :—

*G. H. Mauchlen, Newcastle-on-Tyne.	

Washington.—Installation of low pressure hot water system at the Washington Secondary school, for the Durham C.C. Mr. C. A. F. Willey, F.R.I.B.A., architect, 34, Old Elvet, Durham :—

*Stell & Co., Ltd., Sunderland	£618

Whitley.—Improvements to Eskdale-terrace, for U.D.C. :—

*M. D. Young, Whitley Bay	£3,822 14

Big Slum Clearance Scheme, Greenock.

The first steps have been taken by Greenock Corporation towards carrying out a large and important scheme of demolition and reconstruction in the central area of the town. The proposals which the Corporation have under consideration represent an expenditure of probably £300,000 or £400,000, towards which they will receive a slum clearance grant from the Government of at least 50 per cent.

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